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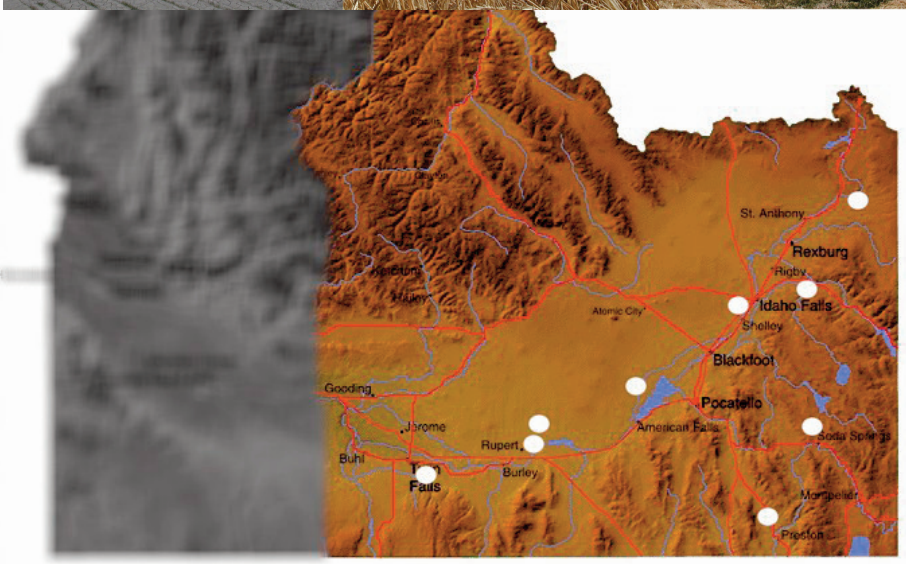
2009 Small Grains Report

Southcentral and Southeastern Idaho Cereals Research and Extension Program

Juliet Windes, Chad Jackson, Tod Shelman, Linda Beck, and Katherine O'Brien



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Southcentral and Southeastern Idaho Cereals Research and Extension Program

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Grower Cooperators

Scott Brown - Soda Springs
Verl Christensen - Preston
Dave Cook - Ririe
Duane Grant - Rupert
Don Marotz - Ashton
Ned Moon and Melvin Barfuss of Jentzsch-Kearl Farms - Rupert
Marc Thiel - Idaho Falls

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Disclaimer Statement

This report represents research in progress and results may change with additional testing. Recommendations for use or non-use of any variety tested in these trials is not stated or implied. Inclusion of a variety in these trials cannot be construed as recommending that variety over varieties not included in the trials.

ALWAYS read and follow the instructions printed on pesticide labels. The pesticide recommendations in this UI publication do not substitute for instructions on the label. Due to constantly changing pesticide laws and labels, some pesticides may have been cancelled or had certain uses prohibited. Use pesticides with care. Do not use a pesticide unless both the pest and the plant, animal, or other application site are specifically listed on the label. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock. Trade names are used to simplify information; no endorsement or discrimination is intended.

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Additions and Changes:

For 2009, changes were made to barley nursery plantings due to budget constraints. The Kimberly irrigated winter barley and Soda Springs dryland two-row and six-row barley nurseries were discontinued.

Introduction

Increases in cereal grain yields result from a combination of genetic improvements in varieties and from improved agronomic practices. Studies have shown that genetic improvements have contributed more than 50 percent of the total improvement in yield over the past 30 or 40 years. The objective of the University of Idaho Small Grain Performance Trials is to provide an unbiased appraisal and evaluation of currently available varieties and advanced experimental lines. This information will assist Idaho growers in comparing and selecting varieties best suited to their particular area and growing conditions.

Varietal development programs strive not only for greater yield potential, but also for improved end-use quality, better disease and insect resistance, yield stabilization through improved winter hardiness, better straw strength, etc. A more detailed description of variety development, cooperative extension testing and evaluation, and seed production programs is given in the University of Idaho publication titled, "Small Grain Variety Development and Adaptation in Idaho", CIS 976. Bringing a new variety to the market place is a cooperative effort by many individuals.

Varieties are best evaluated by comparing performance over a number of locations and preferably over more than one year. Varietal performance can change in response to both environmental and cultural/management conditions. This report summarizes small grain trials conducted throughout Southcentral and Southeastern Idaho that were harvested in 2009, as well as milling and baking data from trials harvested in 2008.

Materials & Methods

Locations

Cereal trials were established at five winter and five spring locations throughout SC and SE Idaho during the fall of 2008 and the spring of 2009. For location details, please see the data tables on pages 5 to 11. The Ririe & Preston winter and Soda Springs spring trials were grown under dryland conditions, all other trials were grown under irrigation. The trials at Aberdeen and Kimberly were grown at UI Research and Extension Centers, and the remaining trials were grown in producers' fields.

Agronomic Practices

Untreated seed was planted at the following rates:

- Irrigated Wheat: 1,000,000 seeds per acre or approximately 95 pounds per acre.
- Irrigated Barley: 800,000 seeds per acre or approximately 80 pounds per acre.
- Dryland Wheat: 700,000 seeds per acre or approximately 65 pounds per acre.
- Dryland Barley: 600,000 seeds per acre or approximately 60 pounds per acre.

Row spacing was set at 7 inches using double disk opener row-units for all irrigated locations and the Soda Springs dryland location. The Ririe dryland location used a

10-inch row spacing and hoe-type row-units and the Preston location used a 12-inch row spacing with shanks preceding double disk opener row-units. Plots at all locations except for Aberdeen were planted 5 feet wide by 14 feet long then sprayed back to 10 feet long using glyphosate herbicide. Aberdeen plots were planted 5 feet wide by 13.3 feet long then sprayed back to 9.3 feet long. All entries were replicated 4 times at each location in a randomized complete block design. Except for planting and harvest operations, nitrogen fertilization, and miscellaneous maintenance, trials established in producers' fields received the same "grower management" or cultural operations as applied to the surrounding commercial wheat or barley field.

Nitrogen fertilizer in irrigated locations was managed according to the following methodology: Yield goals were set for each class at each location using historical yield data. These yield goals were used to calculate optimal fertility amounts according to the following methods: Soft white winter, soft white spring, and winter barley; nitrogen lbs/acre needed = 2 times yield goal. Hard winter and hard spring wheat; nitrogen lbs/acre needed = 2 times yield goal, plus 40 lbs/acre nitrogen topdressed at flowering. Spring 2 row and 6 row barley: nitrogen lbs/acre needed = 1.7 times yield goal. Hard wheat nurseries received the remaining balance of nitrogen in urea (46-0-0) topdressed at heading using hand broadcast spreaders. Fertilizers and pesticides applied are listed on pages 7 to 11. Planting and harvesting operations by university personnel were timed to approximately coincide with corresponding cooperator operations.

Description of Agronomic Data

Each entry at each location was measured for grain yield, test weight, plant height, heading date, and lodging (when present).

- Yield is calculated for wheat at 60 pounds per bushel, and 48 pounds per bushel for barley.
- Test weight is reported in pounds per standard bushel.
- Plant height is reported in inches from the soil surface to the tip of the heads, awns excluded.
- Heading date is reported as the date when 50 percent of heads are fully emerged from the boot.
- Lodging is reported as the percent of the plot area that was not standing straight prior to harvest.

Description of End-use Quality Data

Grain protein for each variety in 2009 was analyzed with a Perten 9100 grain analyzer. Protein data are found in conjunction with the agronomic data noted above in tables 4 to 51. These protein values are best utilized in comparisons between varieties within a nursery.

Due to the time necessary to complete milling and baking evaluations, test results from the Idaho Wheat Quality Laboratory are not available for the 2009 harvest in this report. Data are given for these characteristics from the 2008 harvest and are found in tables 59 to 70.

Milling and baking tests and plump seed evaluations use standardized testing methods and are described below:

- Flour protein: this is the flour protein content, measured on a fixed 14 percent moisture basis. Lower numbers are better for soft wheat; higher numbers are preferred for hard wheat.
- Break flour yield: represents ease of milling or kernel softness; higher numbers are preferred.
- Flour yield: the percent of flour obtained from a sample of wheat; higher percentages are better.
- Whole grain protein percent: protein content of the whole grain, 12 percent moisture basis.

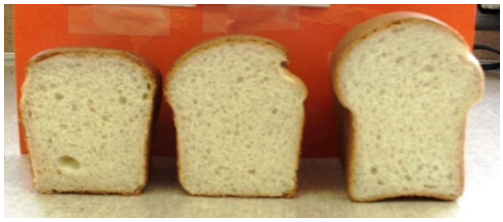
Lower percentages are preferred for soft wheat; higher percentages are preferred for hard wheat.

- Hardness value: a measure of kernel hardness; generally soft white wheats are below 35, hard white wheats are between 40-55 and hard red wheats are above 40.

Additional evaluations include the following:

Hard Wheats

Bake volume: This is the volume of an experimental loaf of bread measured in cubic centimeters and reflects protein quality; higher volume is preferred.



Soft Wheats

Cookie diameter: Diameter of a cookie in centimeters; larger numbers are better.

Barley

- Plump: Percent plump is the percent of a sample that stayed on top of a 5.5/64 screen after shaking and consists of the 6/64 and 5.5/64 percentages combined. Both screen percentages are included in the report for increased precision.
- Thins: the percent of a sample that passed through a 5.5/64 screen after shaking.

Statistical Interpretation

Most tables have a least significant difference (LSD) statistic at the bottom of the table. This statistic is given at the 5 percent error level and is an aid in comparing varieties. If the measured values of any two varieties within a table differ by the LSD value or more, they may be considered different with a confidence level of 95 percent. If the measured values are less than the LSD value, the differences may be due to random error rather than real differences. Coefficient of variation (CV percent) statistic is a general measurement of the precision of each experiment. Lower CV values indicate less experimental variation and greater precision. Most tables that do not have the LSD and CV statistic are averages over locations or years where specific statistical analyses were not run on the combined data or are from data obtained from only one replication or composite of all replications (e.g. quality data). Most tables from individual locations also contain yield data from two previous years. The average, LSD, and CV for these data represent the original data set, not just the selected varieties presented in these tables. The Pr>F value shows the validity of the LSD value above it; if the Pr>F value is equal to or greater than .05, then the LSD value is void. This does not mean there are not differences between the varieties in a category with a

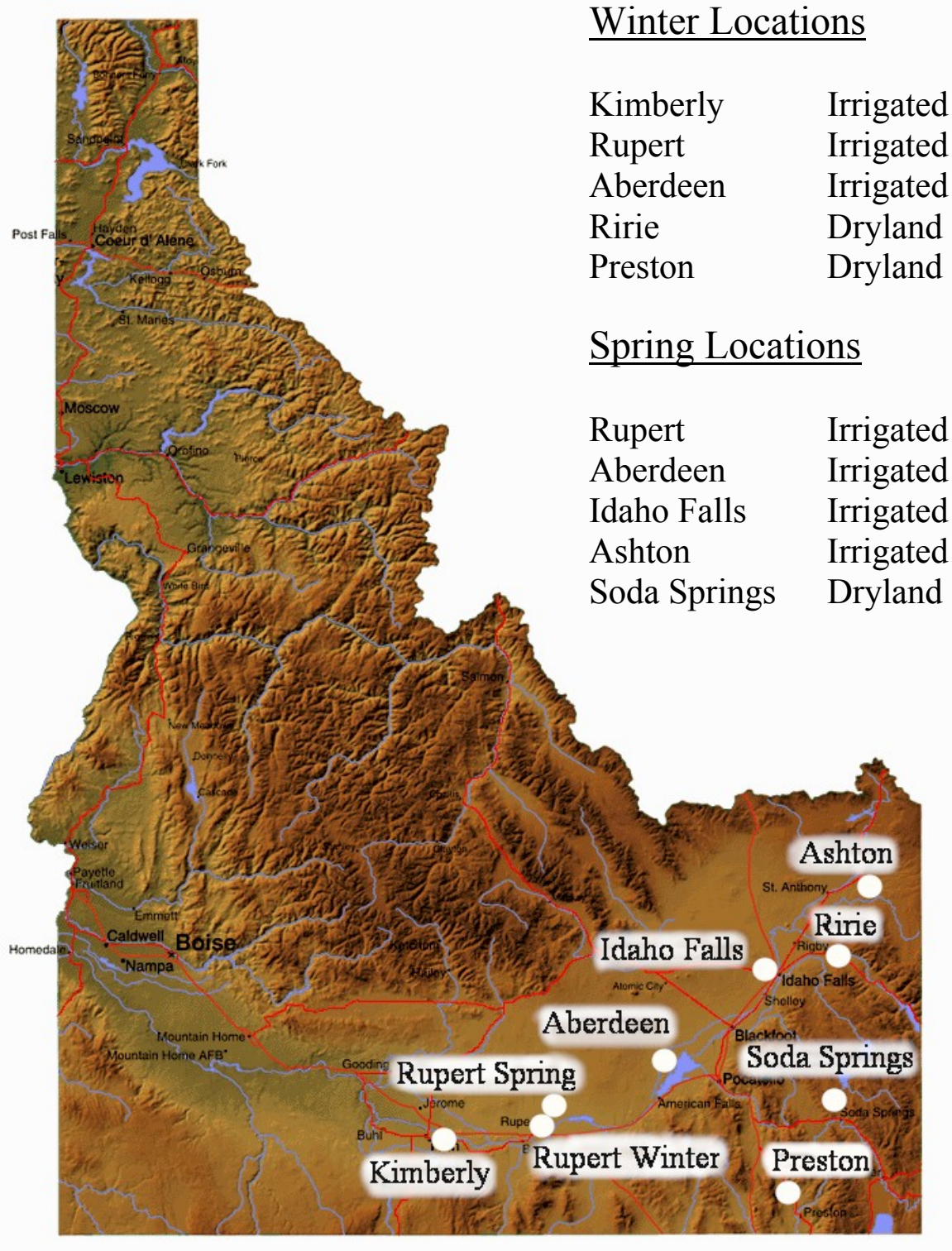
void LSD, it simply means differences cannot be determined at the 95% confidence level we set.

Varieties Tested

A list of released varieties tested in 2008-2009 is given in Table 1. Included in this table are seed size, number of seeds per pound, and the adjusted seeding rate. Information is also given on the year of release and the releasing agency or company. A short description of new varieties is given in Table 2. Additional information is available from the releasing agency or company.

Seasonal average measurements of several plant growth characteristics from the variety trials are shown in Table 3 for the time period of 1999-2009.

Southcentral & Southeast Idaho Cereal Variety Trial Locations



Winter Locations

Kimberly	Irrigated
Rupert	Irrigated
Aberdeen	Irrigated
Ririe	Dryland
Preston	Dryland

Spring Locations

Rupert	Irrigated
Aberdeen	Irrigated
Idaho Falls	Irrigated
Ashton	Irrigated
Soda Springs	Dryland

Location Descriptions

Kimberly Winter Irrigated:

Kimberly Research & Extension Center
3825 N. 3600 E. Kimberly, ID

Coordinates: 42° 33' 2.31" N., 114° 20' 37.13" W.
Elevation: 3900 ft.
Soil Type: #10 Bahem silt loam 1-4% slopes.
Twin Falls County Soil Type Acreage: 24,748
County Soil Type Percentage: 1.6%
Previous Crop: Dry Beans
Planting Date: October 17, 2008
Harvest Dates: August 5, 2009
Chemicals applied: 1 pt/A Bronate Advanced, 2/3 pt/A Starane

Fertility:

	Organic matter	pH	Free Lime %	Hard winter wheat N#/A	Soft white winter wheat & winter barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.4	7.4	9.5	209	209	13 ppm	200 ppm	37 ppm
Fertilizer applied (#/A)				140	100	120 #		
Total	**1.4**	**7.4**	**9.5**	**349**	**309**	**13+ppm**	**200 ppm**	**37 ppm**

Rupert Winter Irrigated:

Cooperator: Jentzsch-Kearl Farms
Located at approximately 150 E. Baseline Rupert, Idaho

Coordinates: 42° 37' 8.81" N., 113° 38' 6.60" W.
Elevation: 4160 ft.
Soil Type: #35 Schodson sandy loam, 0-1% slopes
Minidoka County Soil Type acreage: 3,910
County Soil Type Percentage: 1.2%
Previous Crop: Dry Beans
Planting Date: October 1, 2008
Harvest Dates: August 14, 2009
Chemicals applied: 12 oz/A MCPA , 3 oz/A Sterling Blue
Fertility:

	Organic Matter	pH	Free Lime %	Hard winter wheat N#/A	Soft white winter wheat & winter barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.0	7.9	<1.0	57	57	36 ppm	105 ppm	35 ppm
Fertilizer applied (#/A)				230	190			
Total	**1.0**	**7.9**	**<1.0**	**287**	**247**	**36 ppm**	**105 ppm**	**35 ppm**

Location Descriptions

Aberdeen Winter Irrigated:

Aberdeen Research & Extension Center
1693 S. 2700 W. Aberdeen, ID

Coordinates: 42° 57' 47.66" N., 112° 49' 6.81" W.
Elevation: 4400 ft.
Soil Type: DcA Declo Fine Sandy Loam, 0-2%slopes
Bingham County Soil Type Acreage: 3,020
County Soil Type Percentage: 0.3%
Previous Crop: green manure oats
Planting Date: September 18, 2008
Harvest Dates: August 11-12, 2009
Chemicals applied: 12 oz/A Wolfpack Advanced, ½ pt/A Starane

Fertility:

	Organic Matter	pH	Free Lime %	Hard winter wheat N#/A	Soft white winter wheat & winter barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.1	8.2	7.2	86	86	15 ppm	175 ppm	47 ppm
Fertilizer applied (#/A)				240	200			100 #
Total	**1.1**	**8.2**	**7.2**	**326**	**286**	**15 ppm**	**175 ppm**	**47+ ppm**

Ririe Winter Dryland:

Cooperator: Dave Cook
Approximately 2 miles south of Ririe Reservoir Dam on Meadow Creek Road

Coordinates: 43° 33' 37.34"N., 111° 43' 19.34" W.
Elevation: 5500 ft.
Soil Type: #42 Ririe silt loam, 4-12% slopes
Bonneville County Soil Type Acreage: 74,713
County Soil Type Percentage: 11.4%
Previous Crop: Wheat
Planting Date: September 16, 2008
Harvest Dates: August 18, 2009
Chemicals applied: 2 oz/A Rifle, 11 oz Huskie, 6 oz Salvo
Fertility:

	Organic Matter	pH	Free Lime %	Hard winter wheat N#/A	Soft white winter wheat & winter barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.1	7.8	<1.0	126	126	8 ppm	283 ppm	46 ppm
Fertilizer applied (#/A)				6	6	30 #		
Total	**1.1**	**7.8**	**<1.0**	**132**	**132**	**8+ ppm**	**283 ppm**	**46 ppm**

Location Descriptions

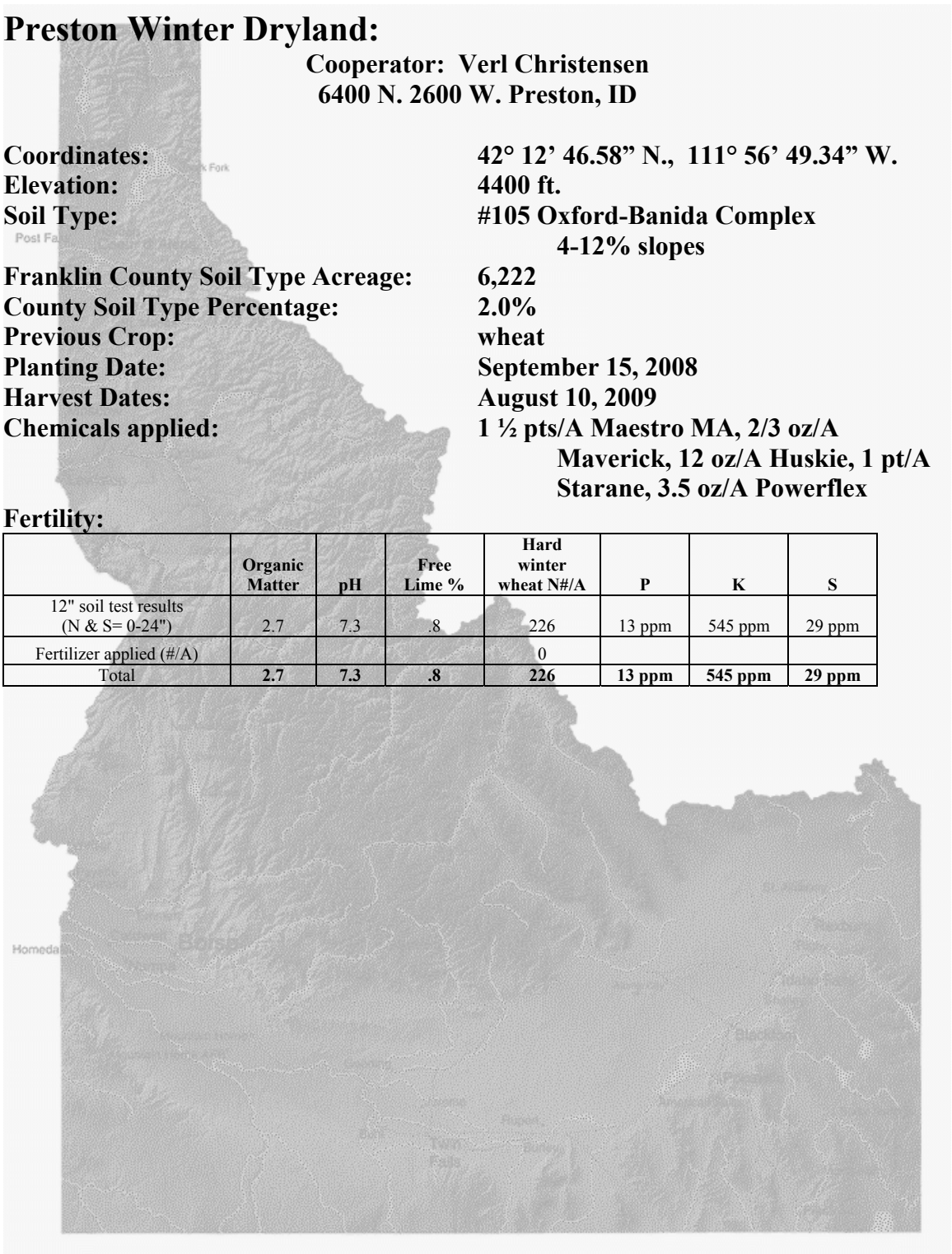
Preston Winter Dryland:

Cooperator: Verl Christensen
6400 N. 2600 W. Preston, ID

Coordinates: 42° 12’ 46.58” N., 111° 56’ 49.34” W.
Elevation: 4400 ft.
Soil Type: #105 Oxford-Banida Complex 4-12% slopes
Franklin County Soil Type Acreage: 6,222
County Soil Type Percentage: 2.0%
Previous Crop: wheat
Planting Date: September 15, 2008
Harvest Dates: August 10, 2009
Chemicals applied: 1 ½ pts/A Maestro MA, 2/3 oz/A Maverick, 12 oz/A Huskie, 1 pt/A Starane, 3.5 oz/A Powerflex

Fertility:

	Organic Matter	pH	Free Lime %	Hard winter wheat N#/A	P	K	S
12" soil test results (N & S= 0-24")	2.7	7.3	.8	226	13 ppm	545 ppm	29 ppm
Fertilizer applied (#/A)				0			
Total	**2.7**	**7.3**	**.8**	**226**	**13 ppm**	**545 ppm**	**29 ppm**



Location Descriptions

Rupert Spring Irrigated:

Cooperator: Duane Grant
950 E. 700 N. Rupert, ID

Coordinates: 42° 43' 15.70" N., 113° 29' 11.70" W.
Elevation: 4250 ft.
Soil Type: #24 Portneuf silt loam 1 to 4% slopes
Minidoka County Soil Type Acreage: 48,183
County Soil Type Percentage: 14.9%
Previous Crop: Sugar Beets
Planting Date: April 9, 2009
Harvest Date: August 19, 2009
Chemicals applied: 13 oz/A Bronate Advanced, 2/3 pt/A Starane, 7 oz/A Achieve

Fertility:

	Organic Matter	pH	Free Lime %	Hard Spring wheat N#/A	Soft white spring wheat & spring barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.4	8.1	3.8	69	69	34 ppm	144 ppm	28 ppm
Fertilizer applied (#/A)				135	95	75#		75#
Total	**1.4**	**8.1**	**3.8**	**204**	**164**	**34+ppm**	**144 ppm**	**28+ppm**

Aberdeen Spring Irrigated:

Aberdeen Research & Extension Center
1693 S. 2700 W. Aberdeen, ID

Coordinates: 42 ° 57' 47.66" N., 112° 49' 6.81" W.
Elevation: 4400 ft.
Soil Type: DeA Declo Loam, 0-2% slopes
Bingham County Soil Type acreage: 40,748
County Soil Type Percentage: 4.5%
Previous Crop: Green manure oats
Planting Date: April 14, 2009
Harvest Date: August 21, 26-27, 2008
Chemicals applied: 1 pt/A Bronate, 2/3 pt/A Starane

Fertility:

	Organic Matter	pH	Free Lime %	Hard Spring wheat N#/A	Soft white spring wheat & spring barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.1	7.8	6.5	119	119	22 ppm	200 ppm	52 ppm
Fertilizer applied (#/A)				150	110	50#		
Total	**1.1**	**7.8**	**6.5**	**269**	**229**	**22+ppm**	**200 ppm**	**52 ppm**

Location Descriptions

Idaho Falls Spring Irrigated:

Cooperator: Marc Thiel
½ mile east of 45th West and 33rd South intersection Idaho Falls, ID

Coordinates: 43° 28' 5.96" N., 112° 06' 37.06" W.
Elevation: 4690 ft.
Soil Type: #22 Pancheri silt loam, 0-2% slopes
Bonneville County Soil Type Acreage: 25,605
County Soil Type Percentage: 3.9%
Previous Crop: potatoes
Planting Date: April 21, 2009
Harvest Date: August 20, 2009
Chemicals applied: 1 pt/A Bronate Advanced, 2/3pt/A Starane

Fertility:

	Organic Matter	pH	Free Lime %	Hard Spring wheat N#/A	Soft white spring wheat & spring barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	1.5	7.9	3.8	112	112	34 ppm	144 ppm	28 ppm
Fertilizer applied (#/A)				70	30	30 #		
Total	**1.5**	**7.9**	**3.8**	**182**	**142**	**34+ppm**	**144 ppm**	**28 ppm**

Ashton Spring Irrigated:

Cooperator: Don Marotz
1/10 mile south of the intersection of Cave Falls Highway (1400 N) and 4200 E on 4200 E. road Ashton, ID

Coordinates: 44° 05' 01.18" N., 111° 18' 59.27" W.
Elevation: 5620 ft.
Soil Type: #92 Rin silt loam, 1-4% slopes
Fremont County Soil Type Acreage: 6,879 acres
County Soil Type Percentage: 1.1%
Previous Crop: Barley
Planting Date: May 19, 2009
Harvest Date: September 24-25, 2009
Chemical applied: 1 pt Bronate Advanced, 9oz Achieve SC, 2/3 pt/A Starane

Fertility:

	Organic Matter	pH	Free Lime %	Hard Spring wheat N#/A	Soft white spring wheat & spring barley N #/A	P	K	S
12" soil test results (N & S= 0-24")	2.7	6	<1.0	32	32	28 ppm	205 ppm	16 ppm
Fertilizer applied (#/A)				130	90			20#
Total	**2.7**	**6**	**<1.0**	**162**	**122**	**28 ppm**	**205 ppm**	**16+ppm**

Location Descriptions

Soda Springs Spring Dryland:

Cooperator: Scott Brown

2.5 miles east of Highway 34 on Blackfoot River Road Soda Springs, ID

Coordinates:	**42° 49' 36.77" N., 111° 30' 54.21" W.**
Elevation:	**6368 ft.**
Soil Type:	**485BB Foundam-Kackley complex 1-8% slopes**
Caribou County Soil Type Acreage:	**Information not available**
County Soil Type Percentage:	**Information not available**
Previous Crop:	**Barley**
Planting Date:	**May 19, 2009**
Harvest Date:	**September 22, 2009**
Chemicals applied:	**1 pt/A Wolfpack Advanced, 2/3 pt/A Starane + 1 pt/A Axial**

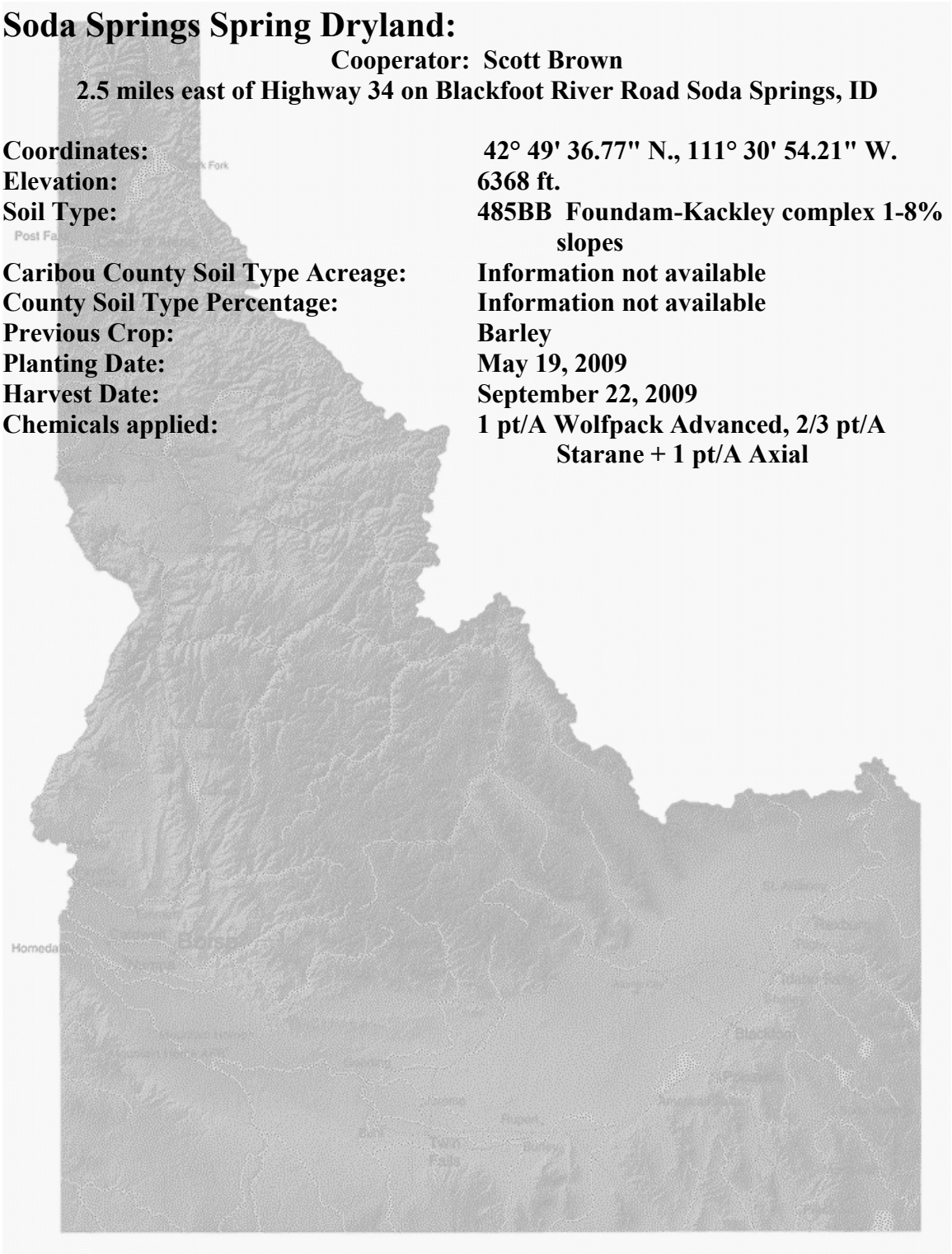


Table 1. Released varieties tested in 2008-2009 with seed size and adjusted seeding rate.

Variety	Exp. No.	1000 Kernel Weight (g)	Seeds per Pound	Adjusted Seeding Rate[1] (lb/A)	Year Released	Developer(s)/Distributor of variety
Soft White Winter Wheat						
AgriPro Legion		50.0	9,072	110	2008	AgriPro
AgriPro Salute		49.5	9,164	109	2007	AgriPro
Bitterroot	92-22407A	36.5	12,427	80	2007	Idaho AES, USDA
Bruehl (club)		42.5	10,673	94	2000	Washington AES, USDA
Brundage	ID86-14502B	42.5	10,673	94	1996	Idaho AES, USDA
Brundage 96	ID-B-96	38.5	11,782	85	2002	Idaho AES, USDA
Bruneau	93-64901A	36.0	12,600	79	2009	Idaho AES, USDA
Chukar (club)	WA7855	29.0	15,641	64	2001	Washington and Oregon AES, USDA
Clearfirst		38.0	11,937	84	2002	BASF / General Mills
Coda (club)	WA7752	34.0	13,341	75	1998	Washington AES, USDA
Daws	WA6099	40.5	11,200	89	1976	Washington AES, USDA
Goetze	ORH010920	38.5	11,782	85	2007	Oregon State AES, USDA-ARS
IDO 587	IDO 587	47.5	9,549	105	2004	Idaho AES, USDA
Lambert	ID85-153	47.0	9,651	104	1993	Idaho AES, USDA
Madsen	WA7163	38.5	11,782	85	1988	Washington, Idaho & Oregon AES, USDA
ORCF-101	OR2010051	44.0	10,309	97	2003	Oregon AES, USDA
ORCF-102	OR2010007	43.5	10,428	96	2005	Oregon AES, USDA
Simon	ID91-34302A	46.0	9,861	101	2002	Idaho AES, USDA
Skiles	ORH010085	42.0	10,800	93	2007	Oregon AES, USDA
Stephens		48.0	9,450	106	1977	Oregon AES, USDA
Tubbs 06	OR939526 reselect	46.5	9,755	103	2002	Oregon AES, USDA
UICF Brundage	02-859	35.0	12,960	77	2009	Idaho AES, USDA
UICF Lambert	99-435	50.5	8,982	111	2008	Idaho AES, USDA
WestBred 456		41.5	10,930	91	2008	WestBred, LLC
WestBred 470		50.0	9,072	110		WestBred, LLC
WestBred 528	BZ6W98-528	45.0	10,080	99	2005	WestBred, LLC
Xerpha		38.5	11,782	85	2008	Washington AES
Hard Red and White (W) Winter Wheat						
AgriPro Paladin	W96-355	43	10,549	95	2005	AgriPro
Bauermeister	WA7939	43	10,549	95	2005	Washington AES, USDA
Bonneville	IDO421	38.5	11,782	85	1993	Idaho AES, USDA
Boundary	IDO467	36.5	12,427	80	1996	Idaho AES, USDA
Curlew	UT9325-55	38	11,937	84	2009	Utah AES, USDA
Deloris	UT2030-32	40.5	11,200	89	2002	Utah AES, USDA
DW	ID0513	35.5	12,777	78	2001	Idaho AES, USDA
Eddy		41.5	10,930	91	2004	WestBred, LLC
Esperia		42.5	10,673	94		AllStar Seeds
Garland	UT1706-1	38	11,937	84	1992	Utah AES, USDA
Gary (W)	IDO550	45	10,080	99	2002	Idaho AES, USDA
Golden Spike (W)	UT1944-158	38.5	11,782	85	1999	Utah AES, USDA
Juniper	IDO 575	43	10,549	95	2005	Idaho AES, USDA
Manning	UT89099	40.5	11,200	89	1979	Utah AES, USDA
MDM (W)	WA7936	44	10,309	97	2005	Washington AES, USDA
Mieti		35.5	12,777	78		AllStar Seeds
Mol		32.5	13,957	72		AllStar Seeds
Moreland	IDO517	35.5	12,777	78	2003	Idaho AES, USDA
Norwest 553		32.5	13,957	72	2007	Oregon State AES, USDA-ARS, Nickerson U
NuHorizon (W)	GM10002	33.5	13,540	74	2001	General Mills, Great Falls, MT
Promontory	UT1567-51	41.5	10,930	91	1990	Utah AES, USDA
UI Darwin (W)	IDO 604	49	9,257	108	2005	Idaho AES, USDA
UI Silver (W)		39.5	11,484	87	2009	Idaho AES, USDA
UICF Grace (W)	IDO 651	41.5	10,930	91	2009	Idaho AES, USDA
Utah 100	UT1650-150	44	10,309	97	1997	Utah AES, USDA
Weston		44	10,309	97	1978	Idaho AES, USDA
Whetstone	W98-344	32.5	13,957	72	2009	AgriPro
Yellowstone	MT00159	41.5	10,930	91	2005	Montana State University

[1]Adjusted to plant 1 million seeds per acre under irrigation according to the number of seeds per pound for each variety.

Table 1 (cont'd). Released varieties tested in 2008-2009 with seed size and adjusted seeding rate.

Variety	Exp. No.	1000 Kernel Weight (g)	Seeds per Pound	Adjusted Seeding Rate[1] (lb/A)	Released	Developer(s)/Distributor of variety
Soft White Spring Wheat						
Alpowa	WA7677	39.5	11,484	87	1993	Washington, Oregon, & Idaho AES, USDA
Alturas	ID0526	37.0	12,259	82	2002	Idaho AES, USDA
Cataldo	IDO642	41.0	11,063	90	2007	Idaho AES, USDA
Challis	BZ692-108	41.0	11,063	90	2000	WestBred, LLC
Nick	BZ698-31	43.0	10,549	95	2000	WestBred, LLC
Penawawa		42.5	10,673	94	1985	Washington AES, USDA
Skookum	ML042-409-1,5	34.0	13,341	75	2005	Fossum Cereals
Treasure		35.0	12,960	77	1986	Idaho AES, USDA
UI Pettit	IDO632	36.0	12,600	79	2006	Idaho AES, USDA
Waxy Penawawa	WA7996	38.5	11,782	85	2006	USDA-ARS
Whit	WA008008	42.0	10,800	93	2009	Washington AES, USDA-ARS
Hard Red Spring						
Buck Pronto		48.0	9,450	106	2004	Trigen
Bullseye	B02-0081	35.0	12,960	77	2009	AgriPro
Cabernet		44.5	10,193	98	2007	Pacer Corp
Choteau		39.0	11,631	86	2005	Montana State University
Iona	IDO492	43.5	10,428	96	1999	Idaho AES, USDA
Jefferson	IDO462	36.0	12,600	79	1998	Idaho AES, USDA
Jerome	IDO 566	47.0	9,651	104	2004	Idaho AES, USDA
Kelse	WA007954	40.0	11,340	88	2009	Washington AES, USDA
Summit		39.0	11,631	86		General Mills, Great Falls, MT
Tara 2002	WA7824	47.5	9,549	105	2001	Washington AES, USDA
UI Winchester	IDO578	40.5	11,200	89	2009	Idaho AES, USDA
WestBred 936	PH986-61	50.5	8,982	111	1992	WestBred, LLC
Hard White Spring Wheat						
Blanca Grande		37.5	12,096	83	2002	General Mills, Great Falls, MT
Idaho 377s	IDO377s	38.5	11,782	85	1996	Idaho AES, USDA
Klasic		42.5	10,673	94	1982	Northrup-King Co., Minneapolis, MN
Lochsa	IDO 597	48.5	9,353	107	2005	Idaho AES, USDA
Lolo	IDO533	47.0	9,651	104	2000	Idaho AES, USDA
Otis	WA7931	39.0	11,631	86	2002	Washington AES, USDA
Pristine	BZ991-408	53.5	8,479	118	1999	WestBred, LLC
Snow Crest		48.0	9,450	106	2004	WestBred, LLC
WB-Paloma	BZ904-331WP	40.5	11,200	89	2009	WestBred, LLC
Spring Durum Wheat						
Alzada		56.0	8,100	123	2004	WestBred, LLC
AP 1526		48.0	9,450	106		General Mills
Kronos		60.0	7,560	132	1996	Arizona Plant Breeders
Matt		44.0	10,309	97	2000	Simplot Agrisource, Burley, Idaho
Utopia		57.0	7,958	126	1997	World Wide Wheat, L.L.C.
Winter Barley						
Charles	94Ab1274	55.0	8,247	121	2005	USDA-ARS, Aberdeen
Eight-twelve	79Ab812	45.0	10,080	99	1988	Idaho AES, USDA
Endeavor	95Ab2299	52.5	8,640	116	2008	Idaho AES, USDA
Maja	OR81	41.5	10,930	91	2009	Oregon AES, USDA
Schuyler		40.5	11,200	89	1969	Cornell AES, USDA
Sprinter		38.5	11,782	85	1987	WestBred, LLC
Strider	ORW6	46.0	9,861	101	1998	Oregon AES, USDA
Sunstar Pride	SDM204-B	43.0	10,549	95	1995	Sunderman Breeding, Twin Falls, ID

[1]Adjusted to plant 1 million seeds per acre under irrigation according to the number of seeds per pound for each variety.

Table 1 (cont'd). Released varieties tested in 2008-2009 with seed size and adjusted seeding rate.

Usage:	Variety	Exp. No.	1000 Kernel Weight (g)	Seeds per Pound	Adjusted Seeding Rate[1] (lb/A)	Year Released	Developer(s)/Distributor of variety
feed/malt	**Two-Row Spring Barley**						
m	AC Metcalfe		49.5	9,164	87	1997	Agriculture Canada
m	B1202		45.5	9,969	80		Busch Agricultural Resources, Inc., Ft. Collins, CO
f	Baronesse	NS078054	47.0	9,651	83	1992	Westbred, LLC
f	Boulder		45.0	10,080	79	2005	WestBred, LLC
f	Burton	98ID251	52.5	8,640	93	2004	Idaho AES, USDA
f	Calgary		48.5	9,353	86		Arizona Plant Breeders
f	Camas	ND9147	50.5	8,982	89	1998	Idaho AES, USDA
f	CDC Bold		50.0	9,072	88		University of Saskatchewan
f	CDC McGwire		40.5	11,200	71	1999	University of Saskatchewan
m	CDC Stratus		47.0	9,651	83	1994	University of Saskatchewan
f	Champion		50.0	9,072	88	2007	Westbred, LLC
f	Clearwater	01ID435H	44.0	10,309	78	2007	Idaho AES, USDA
m	Conrad	B5057	46.0	9,861	81	2004	Busch Agricultural Resources, Inc., Ft. Collins, CO
m	Copeland		44.0	10,309	78	1999	University of Saskatchewan, Great Western Malting
m	Craft		51.0	8,894	90	2006	Montana AES
f	Geraldine		44.5	10,193	78	2007	Montana AES
m	Harrington		41.5	10,930	73	1984	University of Saskatchewan
f	Haxby	MT950186	48.0	9,450	85	2002	Montana AES
f	Hayes		38.5	11,782	68	2004	Montana AES
m	Hockett	MT910189	48.5	9,353	86	2007	Montana AES
f	Idagold II		43.0	10,549	76		Coors Brewing Co. Inc., Burley, ID
f	Lenetah	01Ab11107	48.0	9,450	85	2008	Idaho AES, USDA
m	Merit	2B91-4947	46.5	9,755	82	1997	Busch Agricultural Resources, Inc., Ft. Collins, CO
m	Merit 16	2B99-2316	39.0	11,631	69	2009	Busch Agricultural Resources, Inc., Ft. Collins, CO
m	Moravian 69	C69	34.5	13,148	61	2005	Coors Brewing Co. Inc., Burley, ID
m	Pinnacle	2ND21863	55.0	8,247	97	2007	North Dakota AES, USDA
f	Primo	B-99-AL-616	48.0	9,450	85	2008	Agripro
f	Radiant		42.0	10,800	74		Washington State University
f	Spaulding	PB1-95-2R-522	47.5	9,549	84	2006	Plant Breeders 1 Inc., Moscow, Idaho
f	Tetonia	98AB11720	48.5	9,353	86	2007	Idaho AES, USDA
f	Valier	MTLB30	40.5	11,200	71	1999	Montana AES, USDA
f	Xena	BZ594-19	50.5	8,982	89	2000	WestBred, LLC
	Six-Row Spring Barley						
f	Aquila	UT95B1480-1632	45.0	10,080	79	2005	Utah AES, USDA
m	Celebration		26.5	17,117	47	2008	Busch Agricultural Resources, Inc., Ft. Collins, CO
f	Colter	79Ab10719-66LC	40.5	11,200	71	1991	Idaho AES, USDA
f	Creel	93Ab688	43.0	10,549	76	2002	Idaho AES, USDA
f	Goldeneye	UT95B1216-4087	40.0	11,340	71	2005	Utah AES, USDA
f	Herald	00ID1550	42.0	10,800	74	2006	Idaho AES, USDA
m	Lacey	M98	38.5	11,782	68	2000	Minnesota AES, USDA
m	Legacy	6B93-2978	40.5	11,200	71	1998	Busch Agricultural Resources, Inc., Ft. Collins, CO
f	Millennium	UT004603	32.5	13,957	57	2000	Utah AES, USDA
m	Morex		40.5	11,200	71	1978	Minnesota AES, USDA
f	Steptoe		49.0	9,257	86	1973	Washington AES, USDA
m	Tradition		41.0	11,063	72	2003	Busch Agricultural Resources, Inc., Ft. Collins, CO

[1]Adjusted to plant 1 million seeds per acre under irrigation according to the number of seeds per pound for each variety.

Results and Discussion

Planting conditions

The fall of 2008 provided good conditions for planting winter grain. Pre- or post-planting irrigation was required for irrigated trials to germinate and grow. The dryland conditions were very dry, with 1-3% germination three weeks after planting. October rains allowed the dryland trial to complete germination, and a very warm November allowed for excellent dryland stands going into the winter.

Spring planting conditions were also generally good, as long as planting occurred prior to heavy rains occurring in late May and early June, delaying planting at some upper elevation locations, like Ashton and Soda Springs.

Weather Conditions

A warm, extended fall in October and November was followed by December temperatures that fell sharply, with several exceedingly cold fronts taking the temperatures into the single digits. Another cold front in early January (Jan 3-4) took temperatures below zero Fahrenheit. Temperatures were consistently cold, resulting in very little winter kill in winter wheat and winter barley throughout the region.

An unusually cool and rainy spring, especially the high rainfall in June (chart 1), set up wonderful conditions for spring growth and high yield potential, especially if irrigation was reduced or managed appropriately. These same conditions resulted in inadequate nitrogen to meet unexpectedly high yield

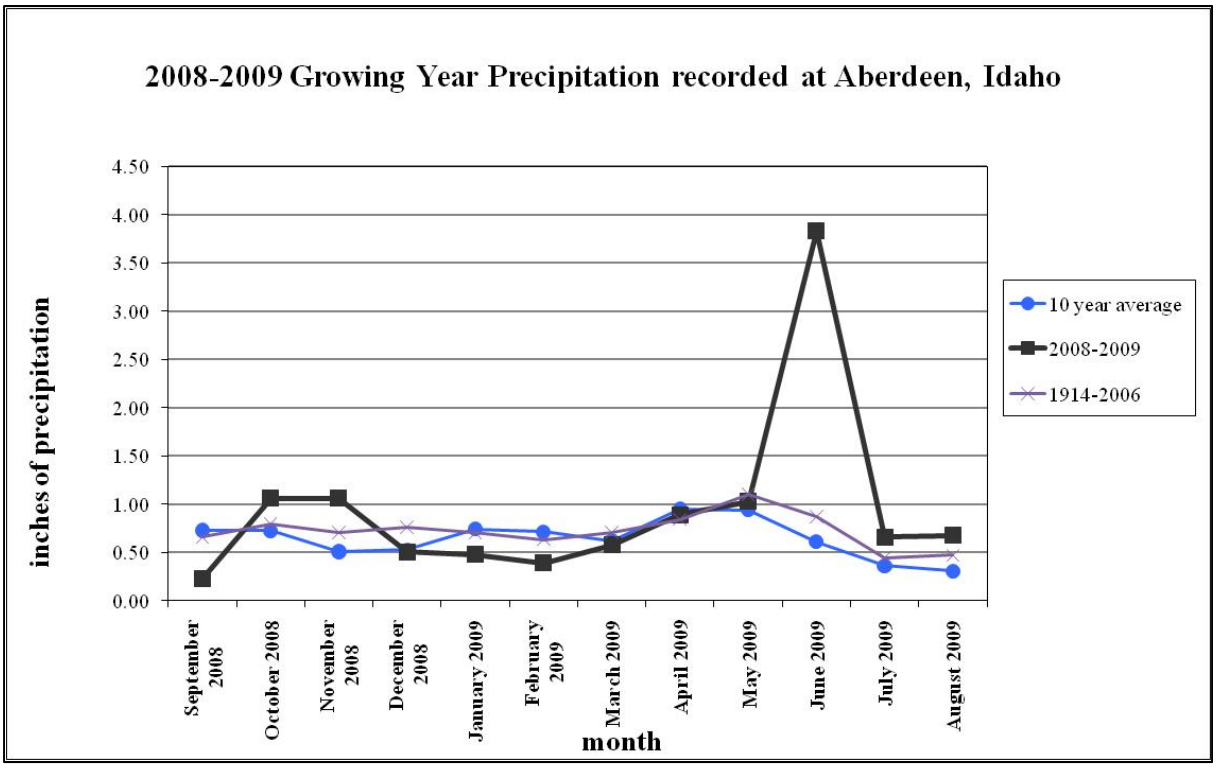


Chart 1. 2008-2009 growing year precipitation versus 10 year and 93 year averages.

potentials and resulted in low to very low grain protein, especially in the spring grains. Dryland producers had a difficult time meeting nitrogen requirements as almost all nitrogen is applied preplant or at planting, with few efficient options available for in-season nitrogen applications.

A cool summer allowed for long time periods for grain fill, but also delayed grain maturity, delaying harvest for a week or more, depending upon location. High grain moisture also plagued harvest. Low proteins were a major problem this year in all grain, but especially in the spring wheat and barley. This was not just a local problem, but was seen throughout the northern tier states where excessive spring moisture contributed to unexpectedly high grain yields, resulting in inadequate nitrogen applied to meet the demands of higher yields, and leaching of nitrogen below the root zone.

Disease and Insect Problems

Russian wheat aphids were prevalent in winter grain in the fall 2008 in the Magic Valley area. They were not observed to overwinter to cause problems in the spring. Wireworms, while not present in traps at spring planting, became a huge problem in areas across the entire region, reducing stand and yield. Wireworms were prevalent in some areas in plant crowns throughout the entire spring and into July, probably due to cooler than average temperatures. As many as five wireworms *per plant* were observed in some fields. Insecticides applied as seed treatments slightly reduced but did not control wireworms and the resultant feeding damage.

Environmental conditions were optimal for the development of stripe rust in wheat and barley, but the disease did not develop until very late in the growing season. Little to no yield loss due to stripe rust was observed in foliar fungicide trials in Aberdeen.

Barley scald significantly affected winter barley in the Magic Valley. Unusually wet and cool conditions permitted the rapid development of disease that reduced yield by 50% over what was expected. In most years, low levels of early season scald infection do little to affect the barley crop and yield, and can be ignored. The spring of 2009 was not by any means a typical year, and scald ran rampant in fields where application of fungicides would have prevented significant crop loss. This will be a disease to watch in future years, especially as production of winter barley increases.

Fusarium foot rot and take-all were prevalent in areas where grain followed grain and where irrigation was not reduced to compensate for the heavy spring rains. Also becoming a significant problem for the first time since the early 1980's, Fusarium head blight reduced yields and contaminated grain with toxins, rendering some fields unfit for human or animal consumption. Wet conditions at flowering in both winter and spring grains allowed floral infection by *Fusarium* species to occur. This disease was especially severe where spring wheat followed corn, as the fungus reproduces extensively on corn residue. It is highly recommended that irrigated spring wheat be treated with an appropriate fungicide at flowering to reduce infection, especially when a hard white spring wheat follows corn

production. It is essential that a **triazole** fungicide be utilized, as strobilurin fungicides are ineffective in reducing the accumulation of toxins (i.e. deoxynivalenol or DON) that are a by-product of the fungal infection process.

Pythium damping off occurred in many spring crops due to cold wet conditions at planting. This resulted in reduced root systems, reduced stand and stunted plants. Metalaxyl based fungicides will control and/or reduce infection and symptom development, but in some cases seed treatments were not completely effective in controlling disease development.

Kimberly Research and Extension Center, Winter Grain

The winter wheat nurseries were planted into dry soils and were irrigated after planting to improve emergence. No winter barley was planted at this location due to restricted funding.

The hard winter wheat group yielded from 106 (Mol) to 149 bu/A. Norwest 553, a hard red wheat from Oregon AES and the Nickerson U.K., was the highest yielding variety at 149 bu/A, and had good test weight, no lodging and below average protein (-0.5%). Promontory, NuHorizon (white), AgriPro Paladin, and Yellowstone, yielded 146,146, 143 and 143 bu/A, respectively. Site average for yield of the hard winter group was 131 bu/A. Test weight average was 61.7%, and grain protein average for the location was low, at 11.1%. Three year averages put Yellowstone at the top with 123.4 bu/A followed by NuHorizon, Promontory, Deloris and Whetstone at 123, 121, 121 and 120 bu/A, respectively.

In the soft white winter group, yield varied from 127 to 152 bu/A. AgriPro Legion, Tubbs 06, Bruneau, Lambert and ORCF-102 were the highest yielding named varieties. Test weight averaged 60.8 lbs/bu, and grain protein average for the location was a low 8.9%. The top yielding soft white winter varieties over the last three years over all locations are Bruneau (128 bu/A), Tubbs 06 (127 bu/A), Xerpha (126 bu/A) and Brundage (124 bu/A). Bruneau and Brundage are also high quality soft white winter wheats, with Brundage rated Q+ for quality by the Idaho Wheat Commission. (Bruneau has not yet been rated by the IWC.) Tubbs 06 is rated AQ for Acceptable Quality, and Xerpha end-use quality is poor, or Limited Market.

Rupert, Jentzsch-Kearl Farms, Winter Grain

Little to no winter injury occurred in Rupert to the winter barley or winter wheat. Average yield for the winter barley varieties was 153 bu/A, and varied from 121 to 178 bu/A. The highest yielding named varieties included Sunstar Pride (178 bu/A), Eight-Twelve (167 bu/A) and Sprinter (159 bu/A). Proteins were low (10.2%) and lodging averaged 25%. Charles, Endeavor, and Maja, the three named winter malt varieties, yielded 156,149, and 133 bu/A, respectively.

Average yields for the hard winter wheat were 23 bushels less than Kimberly, at 108 bu/A. Yield ranged from 80 (Bauermeister) to 140 bu/A (NuHorizon). Test weight was low, averaging 58.4 lbs/bu, and protein averaged 14%. NuHorizon, Whetstone, and Norwest 553 were the highest yielding named lines at 140, 132, and 124 bu/A, respectively.

The soft white winter group yielded from 111 to 138 bu/A. The highest yielding varieties were Brundage (133 bu/A), WestBred 456 (133 bu/A) Lambert (132 bu/A) and Salute (131 bu/A). Test weights were low at this location (57.8 lbs/bu) and grain protein was similar to those at Kimberly at about 11%, which is good for the soft white winter class.

Aberdeen R&E Center, Winter Grain
The winter barley at Aberdeen was slightly damaged by the winter conditions this year, and average spring stands were 84%. Maja, a new Oregon six-rowed winter malt line, was the most susceptible, resulting in a 68% spring stand. Yields were as high as 190 bu/A with Sunstar Pride, with an overall average of 153 bu/A. Other high yielding varieties included Strider (173 bu/A) and Eight-Twelve (158 bu/A). Charles, the two-rowed winter malt variety, yielded 135 bu/A.

The winter wheat survival fared much better. Average spring stand was 91%, with three varieties notably lower: Mieti (70%), Mol (81%) and Moreland (81%). The hard winter wheat yields varied from 90 (Mieti) to 135 bu/A (UI Darwin), with the average at 115 bu/A. Protein was good at an average of 13.4%, and there was no lodging. UI Darwin (135 bu/A), Deloris (134 bu/A), Gary (132 bu/A) and Yellowstone (128 bu/A) were the top yielding varieties. UI Darwin, Deloris and Gary were tall and were released for dryland conditions, but surprisingly did not lodge under these high fertility and irrigation conditions.

The soft white winter wheat yields varied from 107 (WestBred 456) to 135 bu/A (IDO 587), averaging 122 bu/A. Average proteins were high for this soft group at 12%. There was no lodging. The top-yielders were IDO 587 (135 bu/A), WestBred 528 (134 bu/A), Coda (134 bu/A) and Bitterroot (131 bu/A). The results at this location are not typical for most years. Expectations are such that some varieties like IDO 587 and Coda are among the lower yielding lines, and varieties like Brundage and Salute are among the higher yielding lines. This year demonstrates the impact of the variability of the environment on variety performance.

Ririe, LDS Church Farm, Dave Cook, Winter Grain
This location is our main dryland location for winter grain. We usually plant only one rep of winter barley here to roughly test for winter survival. The average spring stand for winter barley was 59%. Maja survival was much better at Ririe than at Aberdeen, likely due to the testing being more for survival under snow as opposed to survival in more open winter conditions that exist at Aberdeen. Yields varied from 20 to 58 bu/A, with an average of 38 bu/A. The highest yielding named varieties include Eight-Twelve (44 bu/A), Strider (42 bu/A) and Sprinter (39 bu/A).

The hard winter wheat group also had significantly increased yields of 47 bu/A in comparison to 2007 at 23 bu/A and 2008 at 23 bu/A. The range went from a low of 28 bu/A (Mol) to a high of 56 bu/A (Bauermeister). UI Silver, MDM and Deloris were the other top yielding hard winter wheat varieties, at 54, 54, and 53 bu/A, respectively. Over the past three years, the top yielding varieties at this location were Deloris, Utah 100,

NuHorizon and Golden Spike, yielding 42, 42, 41 and 41 bu/A, respectively.

The soft white winter wheat yields varied from 33 (Brundage) to 53 bu/A (Coda), averaging 45 bu/A. Average proteins were acceptable for this soft group at 10.7%. There was no lodging. In addition to Coda, the top-yielders were Bruehl (52 bu/A), Bitterroot (51 bu/A), and IDO 587 (49 bu/A). The lowest yielding varieties were Brundage (33 bu/A), Lambert (35 bu/A), WestBred 456 (38 bu/A) and Skiles (38 bu/A). As with other locations, the results at this location were not typical for most years.

Over three years (2007-2009), the highest yielding soft white winter varieties at this location were Xerpha (31 bu/A), Bitterroot (31 bu/A), ORCF-102 (30 bu/A), Bruehl (30 Bu/A) and Bruneau (30 bu/A). Test weights were low, and average plant height was 22 inches.

Rupert, Duane Grant, Spring Grain
The variety trials in Rupert did not experience any major weather-related problems. Average yield for hard spring wheat at Rupert was 107 bu/A, compared to 97 bu/A in 2007 and 133 bu/A in 2008, but these were all at different locations within the Rupert area. Test weight average was 62.4 lbs/bu, and average protein was low at 11.6%. The top yielding varieties were Idaho 377s hard white spring (126 bu/A), Lolo hard white (126 bu/A), Jerome hard red (125 bu/A), and Otis hard white (124 bu/A). Blanca Grande, Snow Crest, and Choteau had the highest grain protein under nitrogen limiting conditions (13, 12.9, and 12.7% respectively).

Over three years over all locations, the highest yielding varieties under irrigation were Lolo (120 bu/A), Idaho 377s (119 bu/A), and Otis (117 bu/A), all hard white spring wheats. While Otis was developed for dryland conditions, lodging has been minimal under high input situations and yields consistently high. In the hard red springs, the high-yielding varieties include Jerome (113 bu/A), Cabernet (110 bu/A), and Iona (110 bu/A).

The soft white spring wheat yield average was 120 bu/A. In 2007, the average yield at the Rupert location was 102, and in 2008 it was 144 bu/A. In 2009, Alturas yielded 126 bu/A, and UI Pettit 125 bu/A, and Challis 122 bu/A. Protein average was 9.1%. Three year averages over all locations put Alturas at the high yield (120 bu/A), followed by Treasure (119 bu/A), UI Pettitt (119 bu/A) and Skookum (118 bu/A).

The six-row spring barley trial at Rupert yielded an average of 110 bu/A, with a range from 74 (Tradition) to 130 bu/A (Millennium). Millennium, Creel (129 bu/A), and Herald (128 bu/A) were the top yielding feed barleys, and Morex (99 bu/A) and Lacey (94 bu/A) were the top named varieties in the six-rowed malts. Test weights averaged 51.4 lbs/bu, proteins were very low 8.8%, and percent plumps were high (94.5%). Over three years, Millennium was the highest yielding feed variety at 140 bu/A, and Legacy was the highest yielding malt variety at 119 bu/A.

Two-rowed barley yields at this location averaged 129 bu/A, and ranged from 94 to 162 bu/A. The malt variety Moravian 69 yielded 143 bu/A, followed by Conrad and Copeland at 134 bu/A, then

by Geraldine and Pinnacle at 125 and 124 bu/A, respectively. Baronesse, the highest yielding feed variety, yielded 162 bu/A. The feed barleys stayed ahead of the malt lines, with Calgary (151 bu/A), Spaulding (151 bu/A), Lenetah (150 bu/A) and Xena (149 bu/A) being the top yielding feed lines. Three year averages for the malt varieties puts Geraldine, Conrad, and Pinnacle at the top (125, 125, and 124 bu/A, respectively), with the Moravian lines doing very well in the Magic Valley, and Conrad and Geraldine doing consistently well over all locations. Moravian 69 averaged 147 bu/A for three years in Rupert compared to Conrad at 131 bu/A.

Aberdeen R&E Center, Spring Grain
Excellent growing conditions at Aberdeen pushed average yields of hard spring wheat to 120 bu/A and 12.5% grain protein. There was no lodging. In 2008, yields were lower at 98 bu/A, and in 2007 the average yield was119 bu/A. The yields ranged from 110 to 140 bu/A (Otis hard white spring wheat). The top three varieties for yield were again the hard white spring wheat lines Otis, Idaho 377s (137 bu/A), and Lolo (133 bu/A). The highest yielding hard reds were Jefferson, Bullseye and Jerome, yielding 128, 128, and 127 bu/A, respectively. Out of the spring durums, AP1526 and Alzada yielded 125 bu/A and 120 bu/A.

The soft white spring wheat yields at Aberdeen averaged 128 bu/A, with a range from 117 (Waxy Penawawa) to 138 bu/A (IDO671). Excellent yields were obtained from Treasure (136 bu/A), Skookum (131 bu/A), Alpowa (131 bu/A) and Challis (128 bu/A). Test weights were below 60 lbs (59.4) and grain proteins were good at 10.7%.

Six-row barley in Aberdeen averaged 122 bu/A, 31 bu/A less than in 2008, ranging from 105 bushels (Celebration) to 140 bu/A (Millennium). Creel and Colter were the other two top yielding feed barley varieties, at 132 and 131 bu/A, respectively. For the six-row malt lines, they were all close with Legacy at 119, Morex at 117, Lacey at 116, and Tradition at 115 bu/A. Grain protein for the malt varieties varied from 12-12.5%.

Two-row lines averaged 126 bu/A, and ranged from 94 to 144 bu/A. The top yielding named feed lines were Champion, Xena, Spaulding, Tetonia and Lenetah (143, 140, 140, 138, 137 bu/A, respectively). For the malt varieties, Geraldine yielded well at 135 bu/A, followed by Conrad and Pinnacle at 130 and 129 bu/A, respectively. Pinnacle also had excellent test weight (51.3 compared to 49.2 for Harrington and 47.7 lbs/bu for Merit), and the lowest lodging of the malt lines at 3%, compared to 70% lodging for Harrington, and 69% for AC Metcalfe.

Idaho Falls, Marc Thiel, Spring Grain
Good growing conditions in Idaho Falls resulted in average grain yield for the hard spring wheat of 121 bu/A, which was less than last year's average of 132 bu/A. Hard spring wheat ranged in yield from 102 (Klasic) – 151 bu/A (Lolo hard white spring). Average grain protein was low at 11.1%, but test weight was high at 62.8 lbs/bu. The three highest yielding lines were again all hard white wheats, including Lolo (151 bu/A), Otis (141 bu/A), and Idaho 377s (139 bu/A). Tara 2002, Jefferson, and Iona were the highest yielding hard red spring wheats at 132, 131, 126 bu/A, respectively. Grain protein was low at this location, with Pristine (12.5%), Choteau (12.2%),

Snow Crest (12%) and Lochsa (12%) showing the high protein levels.

As in Aberdeen, Treasure again topped the yield chart for the soft white spring varieties at Idaho Falls, yielding 149 bu/A, followed by Skookum at 134 and Alturas at 131 bu/A. Yields ranged from 117 bu/A (Waxy Penawawa) to 149 bu/A. Test weights were a little low at 59.4 lbs/bu, and grain proteins were also low at 8.5%.

Six-row feed lines yielded from 108-154 bu/A in Idaho Falls, with Goldeneye taking first of the named varieties (143 bu/A) and Creel second (134 bu/A). In the six-row malt lines, Tradition (128 bu/A) and Legacy (124 bu/A) out-yielded Lacey and Morex (both at 120 bu/A). Overall site average was 129 bu/A, 20 bushels less than 2008. Test weights were high (52 lb/bu) and thins were low (6.3%).

The two-row lines at Idaho Falls averaged 133 bu/A. Of the feed lines, Calgary averaged 146 bu/A, had 55.6 lb test weight and 97.6% plumps. Baronesse was right behind with 146 bu/A, 55.1 lb test weight, and 96% plumps. Other high yielders include RWA 1758 (146 bu/A), Lenetah (145 bu/A), Spaulding (144 bu/A), and Xena (141 bu/A). In the malt group, the high yielders were Pinnacle (143 bu/A), Copeland (134 bu/A), Conrad (134 bu/A), and Geraldine (132 bu/A). Pinnacle had very high test weight (55.5 lbs/bu), no lodging, and 98.9% plump. Lodging in Harrington was 38%, in Hockett 38% (developed more for dryland conditions), and Geraldine was at 23% lodging.

Ashton, Don Marotz, Spring Grain

The Ashton location suffered from early season disease with cold wet conditions in the spring resulting in Pythium damping off. The previous problems with barley mealy bug did not re-emerge this year. The average yield for the hard spring wheat was 87 bu/A, compared to 2007 at 72 bu/A and 2008 at 86 bu/A. The range in yield varied from 74 bu/A (Blanca Grande) to 112 bu/A (Idaho 377s). Test weights were high at 64.5 lbs/A, and protein was very low, averaging 9.5%. The high yielding varieties were the hard white spring wheat varieties Idaho 377s (112 bu/A), Otis (102 bu/A), and Lolo (99 bu/A). The highest yielding hard red spring wheat varieties were Bullseye, Summit, and Jerome at 93, 93, 92 bu/A, respectively. The highest proteins were seen in the hard white lines Blanca Grande (11.1%) and Snow Crest (10.4%), and the hard red lines Choteau (10.9%) and Kelse (10.6%). There was no lodging in the hard spring wheat at this location.

Treasure yielded 104 bu/A in the soft white spring trials, close to Cataldo (102 bu/A) and Alpowa (100 bu/A). The average yield for the soft white spring trial was 98 bu/A, and ranged from a low of 85 bu/A (Whit) to a high of 108 (IDO 668). The test weight average was 63 lbs/A, and there was no lodging. Grain protein was very low, averaging 7.6%.

Two-row barley yields ranged from 71 to 123 bu/A. The average was 101 bu/A, with the highest feed lines being Baronesse (123 bu/A), Primo (119 bu/A) and Spaulding (118 bu/A). Conrad, Copeland and Merit were the top yielding malt varieties at 104,104, and 103 bu/A, respectively. Test weights and

percent plumps were high, but proteins were very low, averaging only 8.2%.

In the six-rowed barleys at Ashton, the yield average was a little lower than the two-rowed barleys, at 93 bu/A. In the feed barleys, Goldeneye out-yielded the others at 105 bu/A, 54 lb test weight and 99% plumps. Steptoe was the closest next variety at 102 bu/A, 52 lb test weight and 99% plumps. The malt line Morex yielded 104 bu/A, with 54 lb test weight and 99% plumps.

Soda Springs, Scott Brown, Spring Grain

The only trials in Soda Springs this year were the spring wheat nurseries. The barley mealy bugs were not a serious threat as populations were low. Yield averages for the hard white spring nursery were 2.7 times higher than they were in 2008, and 7.4 times higher than in 2007. The range in yield went from 57 (Klasic) to 93 bu/A (Otis). The four highest yielding named varieties were again all hard white spring wheats: Otis, Lolo, WestBred Paloma and Idaho 377s at 93, 88, 84, and 83 bu/A, respectively. The highest yielding hard red spring wheats included Jerome (82 bu/A), Jefferson (80 bu/A), Tara 2002 (77 bu/A) and Bullseye (77 bu/A). Test weights averaged 63 lbs/bu, but proteins were very low (9.6%).

For the soft white spring wheats, the nursery averaged 87 bu/A. The yield ranged from 74 (Waxy Penawawa) to 104 bu/A (IDO629). Challis, Treasure, Penawawa and Alturas were the four top yielding varieties at 95, 91, 90, and 89 bu/A, respectively. Test weight was 60.1 lbs/bu, and proteins were low, even for soft whites, at 8.1%. This is a typical problem when nitrogen applied (preplant or at planting) is not adequate for yield.

Table 2. New Variety Descriptions

SPRING BARLEY

Aquila (UT95B1480-1632) – is a six-rowed feed barley released by Utah State in 2005. Aquila has higher yields and much higher test weights than Steptoe. Aquila is early maturing and has excellent lodging resistance, comparable to Millennium.

Boulder - is a large seeded two-rowed feed barley released by WestBred in 2005 as a replacement for Baronesse and Xena. Boulder is of average height and maturity with 3-yr average yields less than Champion and Baronesse. Boulder has a very high test weight and very large kernels, with only slightly better lodging resistance than Baronesse.

Burton (98ID251) - is a two-rowed hulled spring feed barley released by the USDA-ARS in 2004 for resistance to the Russian Wheat Aphid (RWA). Yields are similar to Baronesse when RWA are absent, but yields significantly higher when the aphids are present. Burton has higher test weight and percent plump than Baronesse.

Calgary – Released by Arizona Plant Breeders in 2002, is a high-yielding, two-rowed feed for irrigated conditions. Calgary heads a little later, is shorter than average, and has good lodging resistance, lodging less than Champion and Xena. Test weight and percent plumps are above average. Calgary has done better than average under dryland conditions.

Celebration – a six-rowed barley released in 2008 by Busch Agricultural Resources, LLC. Celebration has some resistance to Fusarium head blight and consistently lower toxin (DON) content in the grain. In the first year of testing in southern Idaho, yields were below average, while protein and lodging were higher than average.

Champion – a 2007 release from WestBred, LLC., Champion is a very high yielding, two-rowed spring feed barley. Combined over locations and years, Champion averaged higher than all other two-rowed barleys under irrigation. Champion has average test weight, height, lodging, and plumps, heading 2 days earlier than Baronesse.

Clearwater (01ID435H) – a 2007 release from the USDA-ARS in Aberdeen and the Idaho Ag Experiment Station, Clearwater is the first named variety that is a low-phytic acid, hulless, two-rowed spring feed barley. The hulless, low-phytate characteristic should be valuable in the feed industry as a feed for monogastric animals, especially fish, where there is concern about high phosphorus concentrations in the waste stream. Clearwater, because of the hulless characteristic, has very high test weight. Maturity, height, and lodging are average, and Clearwater has a high percent protein.

Conrad (B5057) – two-rowed spring malt barley released by Busch Agricultural Resources in 2005. Conrad has above average yields and test weight. When compared to other malt varieties, Conrad is one of the highest yielding varieties and it yielded very well in the Upper Valley area, especially around Idaho Falls and Ashton.

Copeland – a two-rowed malt variety developed by the University of Saskatchewan and released in 1999, Copeland was tested in 2009 in the southern Idaho variety trials. Copeland yielded similar to Conrad and much higher than Harrington. Copeland was the tall, and average for lodging and test weight.

Craft - Craft two-rowed malt barley is being targeted as malt for specialty beers. Released in 2006 by Montana AES, Craft

yields have been below trial averages under irrigation in southern and southeast Idaho.

Goldeneye (UT95B1216-4087) – is a six-rowed feed barley released by Utah State in 2005. Goldeneye has very high yields under irrigated conditions, and above average yields under dryland production, and above average test weight. Yield, test weight, lodging resistance, and protein, are better than Steptoe. When cut at soft dough, Goldeneye has proven to be a high-yielding forage variety. Goldeneye also has high plumps and protein.

Haxby (MT950186) - a two-rowed spring feed barley released by Montana State University in 2002. With yields similar to Baronesse, Haxby has high test weights, and does best under dryland conditions.

Hayes – two-rowed feed barley released out of Montana AES in 2004. Yields and test weight under irrigation have been lower than average.

Herald (00ID1550) – Herald is a low-phytate, hulled six-rowed feed barley. Seed characteristics make this an excellent feed barley for monogastric animals (swine), as phosphorus is reduced in the waste stream. Depending on the year and environment, Herald has a high yield potential and may also prove useful in the fish food industry. Herald is agronomically similar to its parent, Colter, but has lower test weight and higher plump.

Hockett (MT910189) – two-rowed malt barley released in 2007 by Montana State University. Hockett should replace Harrington with higher yields and less lodging under irrigated and dryland conditions.

Geraldine - Released in 2007 by Montana AES, Geraldine is a two-rowed malt variety with irrigated yields similar to Conrad and Pinnacle.

Lenetah (01Ab11107) – a 2008 release from the USDA-ARS and Idaho AES, Lenetah is a high yielding two-rowed feed variety particularly well-adapted to the rain-fed conditions of northern Idaho. Lenetah has average test weight, heading, protein, plump and height, but may lodge under extreme conditions. Lenetah has consistently yielded higher than Baronesse, even under the irrigated conditions in southern and southeast Idaho.

Merit 16 (2B91-4947) – A 2009 Busch Agricultural Resource two-rowed malt variety that in most years will out-yield Merit. Merit 16 outyields Harrington, has higher test weight, similar heading date and is shorter, with significantly less lodging.

Millennium (UT004603) – a six-rowed spring feed barley that yields very well under irrigation, and has been in the top-yielding groups under dryland conditions when moisture was adequate. Millennium also has excellent straw strength, showing minimal lodging even under high-yield conditions. Millennium is among the lowest for plumps, and has below average test weight.

Moravian 69 (C69) - two-rowed spring malt barley released by Coors Brewing Co. in 2005. Moravian 69 has very high yields in the Magic Valley and Rupert areas, the only locations where it has been tested in the extension trials. Height is very short, and lodging is much less than Harrington.

Pinnacle (2ND21863) – two-rowed spring malt barley released by North Dakota State University and the USDA-ARS in 2007. Pinnacle is a widely adapted malt line, and was a top yielding variety over the previous

three years, similar to Conrad and Geraldine. Pinnacle has average test weight, low protein and high plumps and was 2 days earlier than average for heading date,.

Primo (B-99-AL-616) – a 2008 two-rowed feed variety from AgriPro, Primo has yielded well under high stress conditions. Primo has been above average for irrigated yield and average for other agronomic characteristics, competing with Baronesse and Xena for yield.

Spaulding (PB1-95-2R-522) – a two-rowed spring feed variety, and a Plant Breeders 1 release, Spaulding has excellent yield potential for the Magic Valley area, and yielded above average at all other irrigated locations. Spaulding has above average test weight and plump, average maturity and height and below average protein and lodging.

Tetonia (98AB11720) – two-rowed spring feed barley released in 2007 by the USDA-ARS in Aberdeen and the Idaho Ag Experiment Station. Tetonia has high yield potential over many locations, and is well adapted to Idaho and Montana. Tetonia yielded slightly less than Baronesse in the irrigated nurseries over the last three years.

Tradition – six-rowed malt released by Busch Agricultural Resources, Inc., in 2003. Tradition yields are below trial averages in southern Idaho, but test weight and plumps are higher than test averages.

Xena (BZ594-19) – two-rowed spring feed barley released by Western Plant Breeders. Xena has had very high yields over the locations tested. Its yield has been comparable to Baronesse (often higher), and is about two inches taller but with similar straw strength. Test weight tends to be similar to Baronesse.

WINTER BARLEY

Charles (94Ab1274) – Charles is the first AMBA approved two-rowed winter malt variety released by the USDA-ARS and the IAES in 2005. Charles yields are lower than the winter feed varieties, but has above average test weight. Charles is short, early maturing with average lodging. Charles has excellent plumps and yields very well in the Twin Falls area, even when severe winter conditions reduce stand.

Endeavor (95Ab2299) - Endeavor is the second two-rowed winter malt variety released by the USDA-ARS and the IAES. Endeavor has improved malt quality and yield over Charles, especially in the Magic Valley area where winter kill is less of a problem than in eastern Idaho. Endeavor has excellent test weight and plumps, and is average for heading date, height and lodging. Foundation seed of Endeavor should be available in 2009.

Maja (OR81) – a six-rowed winter barley released by Oregon AES as a winter malt variety. Yields in the first year of testing in southern Idaho were slightly less than Charles. Maja has very high test weight and plumps, and very low lodging.

SPRING WHEAT

Alturas (IDO526) – soft white spring wheat released by Idaho AES and USDA-ARS. Alturas appears to be adapted to both irrigated and dryland conditions, but performs best under irrigation. It is higher yielding, similar in test weight, height and heading to Penawawa, and lower in protein. End-use quality of Alturas is very good and is rated Q+. Alturas has adult plant resistance to stripe rust.

Blanca Grande – a hard white spring wheat distributed by General Mills that has had below average yield. Blanca Grande has

above average test weight, grain protein, large loaf volume and good end use quality. Blanca Grande may have a problem with falling numbers in years with cooler summers.

Buck Pronto – hard red spring distributed through Trigen. Buck Pronto has had below average yields, average test weight and height, with high protein in irrigated trials southern Idaho.

Bullseye (B02-0081) - Bullseye is a hard red spring wheat was released by AgriPro. Combined over irrigated locations, Bullseye was the top performing hard red spring wheat in 2008 and was above average in 2009. Bullseye has very high test weight, and was earlier than average for heading date, and average for height and grain protein. Bullseye has been rated Q+ by the Idaho Wheat Commission.

Cabernet – a hard red spring wheat from Resource Seeds, Cabernet yields better with higher test weight than WB936, with similar heading date, and is shorter with lower protein. Cabernet has been rated Q+ by the Idaho Wheat Commission.

Cataldo (IDO642) – a soft white spring wheat released in 2007 from Idaho AES. Cataldo is very similar to Alturas, bred for Hessian Fly resistance for the rain-fed production areas of the PNW. It yields slightly less, is earlier and shorter than Alturas and has adult plant resistance for stripe rust. End-use quality is similar to Alturas for cookies and Asian noodles.

Challis (BZ692-108) – soft white spring wheat released by WestBred, LLC. Challis has had average yields in both irrigated and dryland trials. It is average in test weight, height, heading date, and lodging resistance. Protein content is lower than Penawawa and milling and baking scores have been good, and was previously rated Q+. Challis is very susceptible to stripe rust.

Choteau – is a hard red spring wheat released by Montana State University in 2005. Choteau has the solid-stem characteristic, which contributes to resistance to the stem saw-fly. Choteau is slightly taller and later in maturity than average with average test weight and above average protein.

Jefferson (IDO462) – hard red spring wheat released by Idaho AES and USDA-ARS. Jefferson is primarily intended as a dryland variety due to it being taller than WestBred 936 and similar to IDO377s. Irrigated yields have been at test average but have been higher when grown on dryland. Jefferson is rated Q+ when there is a minimum of 13 percent protein.

Jerome (IDO566) is a hard red spring wheat developed by the Idaho Agricultural Experiment Station and released in 2004. Jerome is well adapted to both irrigated and rain-fed production systems, and is similar to WPB936 in lodging resistance, milling and baking quality, with higher yields. Jerome is moderately resistant to stripe rust, and is Hessian fly resistant. Jerome has lower grain protein than WB936 and Jefferson.

Kelse (WA007954) - a hard red spring wheat released in 2009 through the Washington AES, and the USDA-ARS. Kelse was taller than average under irrigation, and yielded below average in the first year of testing in southern Idaho.

Lochsa (IDO597) – is a hard white spring wheat adapted to irrigated and rainfed production. Lochsa is agronomically similar to 'Jefferson', with superior quality and higher protein than other hard whites. It is similar in lodging resistance to WestBred 936 (WB 936) and higher in yield. Lochsa is susceptible to stripe rust.

Lolo (IDO533) – hard white spring wheat released by the Idaho Agricultural Experiment station. This variety is similar to IDO377s in most agronomic characteristics, and has stronger straw. It has excellent yield and end-use quality characteristics for noodles. Lolo is moderately susceptible to stripe rust.

Otis (WA7931) – hard white spring wheat released by Washington State University in 2002 with excellent yield potential and good end-use quality. Otis is tall and does very well under irrigated and dryland conditions. Otis is moderately resistant to stripe rust.

UI Pettit (IDO632) – is a soft white spring wheat released in 2006 through the Idaho AES, and rated Q+ by the Idaho Wheat Commission. Yields and test weight are similar to Alturas, but UI Pettit is 4 inches shorter and heads 4 days earlier than Alturas.

Skookum (ML042-409-1,5**) –** is a soft white spring wheat released in 2005 by Fossum Cereals. Yield was above average and test weight is slightly below average. Skookum is a little taller and later than average, and yielded well in the dryland trials.

Snow Crest (WestBred) – a hard white spring wheat released by WestBred, LLC, in 2004. Snow Crest is very similar to Klasic in its agronomic characteristics, is higher yielding, about 2-3 inches taller, with slightly higher protein. Snow Crest is a Q+ wheat.

Summit - a hard red spring wheat released by General Mills. Summit is short, but yielded very well in Ashton in 2009. At other locations, Summit's yield and test weight were near average. Protein was average, with below average loaf volumes. Summit does best under irrigation.

Tara 2002 (WA7824) – hard red spring wheat released by Washington State University. Yield has been below the trial average under most conditions. Test weight and maturity is average, height is taller. End use quality has been excellent.

Utopia - is a durum wheat with black awns released by World Wide Wheat, L.L.C. in 1997. Utopia is shorter than average, but has had stripe rust resistance. Utopia yields below average and has below average test weight.

UI Winchester (IDO578) – a hard red spring wheat released by the Idaho Ag Experiment Station for dryland production areas, but also does well under irrigation. UI Winchester performed similar to Jefferson in the extension trials, but had higher protein under irrigation.

Waxy Penawawa - Waxy-Pen is a fully-waxy, back-cross-five derivative of the soft white spring wheat variety 'Penawawa' and is indistinguishable from Penawawa except for the waxy endosperm trait. Due to its unique amylose-free composition, several end-use quality traits including flour swelling volume and cookie diameter are dramatically altered. Waxy-Pen has received protection under U.S. Plant Variety Protection.

WB-Paloma (BZ904-331WP) – a hard white spring wheat released in 2009 by WestBred, LLC as a possible replacement for Snow Crest. In the first year of testing, Paloma had average yield under irrigation, yielding 108% of Snow Crest, but in the dryland trial in Soda Springs, Paloma yielded 134% of Snow Crest.

Whit (WA008008) – a soft white spring wheat released in 2009 through the Washington AES, and the USDA-ARS. In two years of extension testing in southern Idaho, Whit has yielded below average, has

higher than average test weight and is at average for heading date, height and grain protein. Whit is resistant to stripe rust (high temperature adult plant resistance) and to Hessian fly. Whit is a partial waxy wheat with milling and baking characteristics similar to Alturas and Alpowa.

WINTER WHEAT

Bauermeister (WA7939) – hard red winter wheat released in 2005 from Washington State AES adapted to dryland conditions. Bauermeister yielded well under irrigated and dryland conditions, but had lower than average test weight. End-use quality in the PNW Regional Quality Testing was poor.

Brundage 96 (ID-B-96) – soft white winter wheat released by Idaho AES and USDA-ARS. Brundage 96 is a purified selection from Brundage with better resistance to stripe rust. Brundage 96 is similar to Brundage in being awnless, high yielding and having strong straw. Brundage 96 may be taller than Brundage and is about three to five days later in heading. Test weight and yield of Brundage 96 is lower than for Brundage, and both have excellent quality, Brundage 96 even slightly superior.

Bruneau (93-64901A) – soft white winter wheat released in 2009 by the University of Idaho AES. Bruneau has been the highest yielding soft white winter wheat in these trials averaged over the past three years. Bruneau is resistant to stripe rust, and also has excellent end use quality, good straw strength and low protein. It is susceptible to dwarf bunt. Foundation seed is available.

UI Darwin (IDO 604) – a hard white winter wheat intended as a replacement for the hard red winter cultivar 'Bonneville.' UI Darwin is similar to Bonneville in appearance, agronomic and quality characteristics, and does best in dryland production areas. UI Darwin has some adult plant resistance to stripe rust, is resistant to dwarf bunt and has moderate resistance to snow mold. UI Darwin has very high test weight and grain protein, but will lodge under irrigation.

Deloris (UT2030-32) – hard red winter wheat released by Utah State University in 2002. Deloris has very good yield potential under both irrigated and dryland production systems but is taller than desired under irrigation and may lodge. Test weight is above and heading date is average. Deloris is resistant to dwarf bunt, and very susceptible to stripe rust, but performed well despite heavy stripe rust present in 2005.

DW (IDO513) – hard red winter variety released by Idaho AES and USDA-ARS in 2001. DW is best adapted to dryland environments, and yields are average but may lodge under irrigated conditions. DW tends to be slightly higher in yield compared to Boundary and Bonneville under dryland conditions. DW does have moderate resistance to stripe rust.

Gary (IDO550) – hard white winter wheat released by Idaho AES and USDA-ARS in 2002. Gary is lower in yield than Golden Spike, similar in heading date, end use quality and test weight, and slightly taller. Inadequate straw strength will limit acreage under irrigated conditions.

Goetze (ORH010920) - a soft white winter wheat released in 2007 by Oregon AES and the USDA-ARS as a replacement to 'Foote', which had become susceptible to stripe rust. Goetze is adapted to western Oregon production conditions, and also has resistance to Septoria leaf blotch. Across the trials this year, Goetze performed similar to WB470 and better than Stephens. Goetze requires little to no vernalization and is susceptible to winter kill. End use quality is similar to Stephens and Tubbs.

Golden Spike (UT1944-158) – a hard white winter variety released by Utah AES, for dryland production areas where dwarf bunt

is endemic. While yield performance in 2009 was below average, usually Golden Spike yields are above average under dryland and irrigated conditions. Golden Spike has slightly below average test weights and has acceptable end use quality when it has a minimum 12 percent protein.

UICF Grace (IDO 651) – a hard white winter Clearfield wheat released in 2009 for the rainfed production areas. UICF Grace has resistance to imazamox herbicides such as Beyond®, and will be useful in areas where jointed goatgrass and cheatgrass are problems. Yields are comparable to Golden Spike. UICF Grace is tall and susceptible to black chaff, making it suited to dryland production.

AgriPro Legion - Like Salute, Legion is a tall semi-dwarf soft white winter variety, with white chaff, early maturity and good straw strength for tall wheat. Legion has good resistance to current prevalent races of stripe rust and is similar to Tubbs for both winter-hardiness and snow mold tolerance. Legion has excellent yield potential, yielding similar to Tubbs 06 and Lambert in this year's trials. Like all AgriPro varieties, is a PVP, Title V variety.

MDM (WA7936) – a hard white winter wheat released by Washington State University in 2005. MDM had below average yield and test weight under irrigation, and slightly above average under dryland conditions. End use quality is poor.

Moreland (IDO517) – hard red winter wheat released by Idaho AES and USDA-ARS. Moreland is slightly above average in yield and higher than Boundary and Garland. Height is similar to Boundary and taller than Garland. Straw strength is very good. Best adapted under irrigated conditions, Moreland is a Q+ wheat when protein is above 12 percent. As Moreland is very susceptible to stripe rust and Fusarium foot rot, it is recommended that Moreland not be grown directly after grain and that regular scouting is done to monitor for stripe rust infection.

Norwest 553 – a hard red winter wheat developed by Oregon State and Nickerson U.K. in cooperation with the USDA-ARS. Norwest 553 is resistant to stripe rust and tolerant to Fusarium crown rot, and has yielded very well in the first year of testing, comparable to NuHorizon, Deloris and Yellowstone. Norwest 553 was shorter than average and had good lodging resistance. Grain protein and test weight were average.

NuHorizon (GM10002) – hard white winter wheat released by General Mills. NuHorizon has had excellent yield potential over the last three years under irrigated and dryland environments. Protein content has been below average, and end-use quality is acceptable.

Agripro Paladin (W96-355) – a hard red winter wheat released by AgriPro in 2005. Paladin had lower than average yields, average test weight, and is shorter than average. Paladin yielded well in the Magic Valley trials, and had average grain and flour protein. Loaf volume was above average in 2008, and is listed as acceptable quality by the Idaho Wheat Commission.

Salute - a soft white winter selection from the cross: Rod/Stephens 3*/SF4. Salute is a tall semi-dwarf, white chaffed variety with early maturity and good straw strength for a taller wheat. Salute has good resistance to current prevalent races of stripe rust and above average winter-hardiness and snow mold tolerance. Salute has large heads, excellent yield potential with average test weights and grain protein. Salute has performed slightly above average in both irrigated and dryland extension trials and, like all AgriPro varieties, is a PVP, Title V variety.

UI Silver (IDO 658) – a hard white winter wheat released in 2009 by the University of Idaho AES. UI Silver has had excellent dryland yields so far in extension testing, and has good end use quality for both bread and Asian noodles. UI Silver has resistance to stripe rust, dwarf bunt, and carries the SrTmp gene for resistance to stem rust. It is susceptible to black chaff, which can be a problem under irrigation.

Skiles (ORH010085) – a soft white winter wheat released in 2007 by Oregon AES and the USDA-ARS. Skiles has better winter hardiness than Goetze, Stephens or Tubbs, is moderately resistant to stripe rust, and has tolerance to crown rot and Cephalosporium stripe. In the two years it's been in these trials, Skiles performed above average in 2008, better than WestBred 528 and Madsen, and below average in 2009.

Tubbs 06 (OR939526) – soft white winter wheat reselected from Tubbs, released by Oregon State University. Tubbs 06 is higher or equal in yield but lower in test weight than Brundage. It is similar in test weight and height to Stephens but has stronger straw.

WestBred 456 – a soft white winter wheat from WestBred, LLC, released as an improvement over WB 470 and as a replacement for WB528. In its first year of testing in southern Idaho, it yielded less than but had higher test weight, was shorter and did not lodge as much as WB 528.

WestBred 528 (BZ6W98-528) – soft white winter wheat released by Westbred intended as a replacement for WB 470. Yields are above average, better than WB 470 in both dryland and irrigated trials, but test weight tends to be lower. WB 528 has much better quality than WB 470. WB 528 is also resistant to stripe rust.

Whetstone (W98-355) - is a hard red winter wheat from AgriPro. Whetstone has been a consistent high-yielding, high test weight wheat. Whetstone is a medium height semidwarf with buckskin colored chaff at maturity. Whetstone is an early maturing wheat with a good level of winter-hardiness and is resistant to the current prevalent races of stripe rust. Whetstone has good straw strength and has performed well in both irrigated and dryland production. Whetstone produces good protein, very good loaf volume and is rated acceptable quality by the Idaho Wheat Commission. Whetstone is a PVP, Title V variety.

Yellowstone (MT00159) – a hard red winter wheat with excellent yield potential in irrigated and dryland conditions of southeast Idaho. Yellowstone has average test weight, height and heading dates and has excellent lodging resistance under irrigation. End use quality is average for grain protein, with above average loaf volume.

Table 3. Ten year averages of selected agronomic characteristics, 1999-2008 compared to 2009.

NOTE: "Average" values are for years 1999 to 2008

Winter Wheat

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE				LODGING		
	# of			# of			# of			# of		Days		# of	
Year	Loc.	bu/A	Year	Loc.	lb/bu	Year	Loc.	in.	Year	Loc.	date	fr. Jan.1	Year	Loc.	%
2004	3	122	2000	4	61.4	2005	4	38	1999	3	6/18	170	2009	5	17
2000	4	108	2004	3	61.1	2004	3	36	2008	5	6/14	166	2007	4	9
2005	4	104	2008	5	60.9	2009	5	35	2002	4	6/10	162	2006	4	8
2009	5	102	2001	4	60.9	2000	4	34	2009	5	6/9	162	2003	4	7
2003	4	101	2006	4	60.8	**Avg.**	---	**33**	2001	4	6/8	160	2008	5	4
2006	4	98	2007	4	60.3	2006	4	32	2005	4	6/7	159	2005	4	4
Avg.	---	**98**	**Avg.**	---	**60.1**	2003	4	32	**Avg.**	---	**6/6**	**158**	**Avg.**	---	**4**
2007	4	96	2009	5	60.0	2001	4	32	2004	3	6/3	155	2000	4	2
1999	3	93	2003	4	59.7	1999	3	31	2000	4	6/2	154	2004	3	2
2001	4	89	2005	4	59.3	2002	4	31	2006	4	6/1	153	1999	3	0
2002	4	88	1999	3	59.0	2007	4	30	2003	3	5/31	152	2001	4	0
2008	5	80	2002	4	57.8	2008	4	30	2007	4	5/30	151	2002	4	0

Spring Wheat

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE				LODGING		
	# of			# of			# of			# of		Days		# of	
Year	Loc.	bu/A	Year	Loc.	lb/bu	Year	Loc.	in.	Year	Loc.	date	fr. Jan.1	Year	Loc.	%
2009	5	107	2006	5	62.1	2003	4	34	2008	5	7/10	192	2003	4	62
2008	5	102	2009	5	61.8	2009	5	34	1999	7	7/4	186	**Avg.**	---	**8**
2003	4	96	2000	6	61.6	2005	5	32	2005	5	7/3	186	1999	7	7
2005	5	87	2001	7	61.4	2004	4	32	2009	5	7/3	185	2006	5	6
Avg.	---	**81**	2002	7	60.8	**Avg.**	---	**30**	2004	4	7/1	183	2007	5	5
2007	5	81	2008	5	60.7	1999	7	30	2002	7	6/29	181	2005	5	2
2000	6	80	**Avg.**	---	**60.3**	2007	5	30	**Avg.**	---	**6/29**	**181**	2001	7	1
2004	4	79	2005	5	60.2	2008	5	30	2003	4	6/28	180	2004	4	1
2001	7	79	2004	4	59.6	2000	6	29	2006	5	6/27	179	2008	5	0
2006	5	72	2003	4	59.4	2001	7	29	2001	6	6/24	176	2000	6	0
1999	7	70	1999	7	59.1	2002	7	29	2007	5	6/21	173	2002	7	0
2002	7	67	2007	5	58.6	2006	5	29	2000	6	6/19	171	2009	5	0

Spring Barley

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE				LODGING		
	# of			# of			# of			# of		Days		# of	
Year	Loc.	bu/A	Year	Loc.	lb/bu	Year	Loc.	in.	Year	Loc.	date	fr. Jan.1	Year	Loc.	%
2009	4	118	2009	4	52.5	2009	4	34	2008	5	7/11	193	2003	4	78
2008	5	114	2005	5	52.0	2004	4	34	2005	5	7/4	186	2007	5	35
2005	5	103	2006	5	51.5	2002	7	32	1999	7	7/4	186	**Avg.**	---	**26**
2003	4	102	2000	6	50.9	2003	4	32	2009	4	7/1	183	2001	7	25
2001	7	101	2004	4	50.7	2005	5	32	2004	4	6/29	181	1999	7	23
2000	6	99	2008	5	50.7	2008	5	31	2006	5	6/28	180	2004	4	23
2004	4	99	**Avg.**	---	**50.3**	**Avg.**	---	**30**	**Avg.**	---	**6/28**	**180**	2002	7	22
Avg.	---	**99**	1999	7	50.1	2000	6	29	2002	7	6/26	178	2005	5	21
2007	5	99	2002	7	50.1	2001	7	29	2001	6	6/25	177	2006	5	21
2002	7	96	2003	4	49.2	1999	7	28	2007	5	6/23	175	2008	5	15
1999	7	94	2007	5	49.2	2007	5	27	2003	4	6/20	172	2009	4	13
2006	5	82	2001	7	48.4	2006	5	26	2000	6	6/18	170	2000	6	2

Table 4. Hard Winter Wheat Irrigated Nurseries, 3-Year Averages (2007-2009; 9 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
IDO 621	127.2	62.2	98	6/2	32	17	12.1
Yellowstone	123.4	62.2	97	6/1	36	5	12.6
NuHorizon (W)	122.8	63.6	97	5/29	34	7	12.0
Promontory	121.3	62.8	96	6/2	36	16	12.5
Deloris	120.9	62.7	96	6/3	38	9	12.5
Whetstone	120.3	62.5	97	5/28	33	3	13.4
Moreland	119.7	60.6	94	5/31	33	8	13.2
Eddy	116.5	62.5	97	5/31	33	9	12.7
Bauermeister	116.4	59.1	98	6/7	37	35	13.2
MDM (W)	116.1	59.6	98	6/8	37	35	13.7
Utah 100	115.5	60.9	97	6/4	41	8	12.7
Manning	114.9	61.9	95	6/2	36	23	12.6
Golden Spike (W)	114.3	60.9	97	6/5	37	28	12.7
Garland	114.1	59.8	95	6/4	27	0	13.0
Boundary	113.9	61.0	95	6/4	33	11	12.3
AgriPro Paladin	113.9	61.9	98	6/2	34	7	13.2
DW	113.8	61.8	98	6/4	35	24	13.0
Gary (W)	112.2	60.6	95	6/5	38	36	12.5
Bonneville	110.2	62.6	97	6/7	41	24	14.0
UI Darwin (W)	109.7	62.7	98	6/3	39	24	13.6
NuHills	108.2	63.1	96	5/28	32	17	13.6
Weston	103.7	62.5	95	6/1	39	29	13.5
Average	115.9	61.7	97	6/2	35	17	12.9
LSD (α =.05)	6.2	0.5	3.1	0.6	1.1	8.3	0.5
CV%	11.5	1.9	7.0	0.8	6.5	105.2	4.5
Pr > F	<.0001	<.0001	0.3063	<.0001	<.0001	<.0001	<.0001

(W) = white

Table 5. Soft White Winter Wheat Irrigated Nurseries, 3-Year Averages (2007-2009; 9 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Bruneau	127.6	60.1	97	6/6	34	7	10.4
Tubbs 06	127.0	59.2	98	6/5	35	3	10.9
Xerpha	125.6	59.5	98	6/8	36	3	11.1
Brundage	124.3	61.2	96	5/31	31	0	10.6
Brundage 96	123.7	59.1	98	6/5	31	0	10.9
ORCF-102	123.1	58.2	95	6/5	35	0	10.8
WB 528	122.7	61.0	98	5/31	33	5	11.2
Coda*	122.1	61.5	98	6/8	36	7	11.9
Bitterroot	121.8	60.3	97	6/6	36	2	11.3
Simon	121.7	60.0	96	6/4	34	3	11.2
UICF Lambert	121.5	59.5	96	6/4	36	5	11.5
Lambert	121.1	60.0	98	6/3	36	5	11.0
UICF Brundage	120.2	58.1	97	6/4	31	1	11.2
Madsen	119.4	59.6	96	6/7	33	2	11.5
ORCF-101	119.2	59.0	97	6/5	33	0	11.5
Bruehl*	118.9	57.6	95	6/9	36	8	11.8
Daws	118.1	60.3	98	6/6	35	7	11.1
IDO 587	117.5	58.9	95	6/3	34	9	11.4
Stephens	117.4	60.1	98	6/4	34	6	11.2
Clearfirst	113.7	59.9	95	6/6	34	3	11.5
Chukar*	109.9	61.0	98	6/6	34	6	11.7
Average	120.8	59.7	97	6/5	34	4	11.2
LSD (α =.05)	5.7	2.0	2.8	2.2	1.2	5.4	0.5
CV%	10.1	7.1	6.3	3.0	7.4	303.2	4.4
Pr > F	<.0001	0.0035	0.1128	<.0001	<.0001	0.008	<.0001

*club wheat

Table 6. Winter Barley Irrigated Nurseries, 3-Year Averages (2007-2009; 8 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)	Plumps (>6/64)	Plumps (>5.5/64)	% thin
91Ab36	150.0	48.3	75	6/1	29	3	10.4	78.3	14.5	7.9
02Ab2732	148.7	47.3	71	6/2	35	5	9.7	78.6	13.3	8.4
Sprinter	147.6	50.4	77	6/3	34	5	11.1	71.0	20.3	9.3
93Ab669	146.8	48.5	73	5/27	32	7	10.8	77.8	14.4	8.6
97BX42-116-17A	145.8	49.6	80	6/3	31	8	11.5	71.8	19.2	9.6
02Ab2701	141.8	48.9	72	5/31	33	6	11.0	80.8	12.2	7.2
96AB69	138.1	49.7	70	6/2	30	6	10.1	64.5	20.5	15.5
94Ab1777	138.1	49.0	70	5/28	33	15	11.5	71.8	16.8	12.0
02Ab2739	138.0	47.6	74	5/31	32	9	10.5	78.9	13.1	8.4
92Ab561	133.6	49.5	69	5/29	31	14	11.0	78.1	13.9	8.5
92Ab1308	133.2	48.2	68	5/30	31	11	11.6	75.5	14.6	10.0
Sunstar Pride	133.1	47.4	70	5/30	28	6	10.1	74.3	15.6	10.7
Strider	132.5	49.5	70	5/30	31	7	11.6	81.0	13.2	6.3
Eight-Twelve	130.3	49.3	69	5/30	29	8	10.6	82.6	11.5	6.5
93Ab631	128.8	47.8	69	5/29	29	7	9.9	72.2	17.5	10.9
Endeavor	127.5	49.5	69	5/29	31	9	12.3	75.7	14.1	10.9
97Ab11	127.5	50.0	68	6/4	30	3	10.3	80.5	13.4	6.3
88Ab536B	123.9	49.9	74	5/26	31	1	11.6	79.8	13.0	7.4
Schuyler	122.9	49.8	70	5/31	32	4	11.6	71.4	18.8	10.3
91Ab23	118.7	49.0	69	5/30	30	9	10.8	78.4	14.3	8.1
02Ab339	111.2	51.0	62.9	6/4	32	4	11.9	84.2	9.9	6.4
Charles	105.3	49.8	58	6/1	32	10	12.4	85.3	8.3	6.9
Average	132.9	49.1	70	5/31	31	7	11.0	76.9	14.7	8.9
LSD (a =.05)	11.9	1.1	5.8	2.6	1.5	6.2	0.9	8.9	4.8	4.7
CV%	18.2	4.4	16.8	3.4	10.0	177.3	8.3	11.8	33.0	53.3
Pr > F	<.0001	<.0001	<.0001	<.0001	<.0001	0.0009	<.0001	0.0010	<.0001	0.0268

Table 7. Hard Winter Wheat Dryland Nurseries 3-Year Averages (2007-2009; 5 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Deloris	42.4	60.4	84	6/18	26	0	14.3
Utah 100	41.5	58.7	86	6/17	26	0	14.4
NuHorizon (W)	41.3	61.2	82	6/15	21	0	13.7
Golden Spike (W)	40.9	59.6	79	6/18	24	0	14.2
MDM (W)	40.4	57.8	87	6/21	23	0	15.1
Promontory	40.1	60.8	86	6/16	23	0	14.2
Bauermeister	40.1	58.2	80	6/21	24	0	14.4
Yellowstone	40.0	60.6	77	6/17	23	0	14.5
DW	39.5	60.0	77	6/17	21	0	14.4
Moreland	39.4	58.5	79	6/16	21	0	14.4
Boundary	39.1	58.7	87	6/19	21	0	14.1
Gary (W)	38.3	59.7	77	6/18	25	0	13.9
NuHills	37.2	61.8	80	6/14	21	0	15.0
Garland	36.5	58.9	81	6/19	18	0	14.7
Juniper	36.5	59.2	85	6/19	21	0	14.3
UI Darwin (W)	36.2	61.8	81	6/17	25	0	15.0
Weston	36.1	61.4	82	6/16	26	0	14.8
Bonneville	34.6	60.5	82	6/20	25	0	14.9
Average	38.9	59.9	82	6/18	23	0	14.5
LSD (α =.05)	2.9	1.3	9.3	0.8	1.0	0.0	4.4
CV%	12.0	3.5	14.1	0.7	5.5	.	4.2
Pr > F	<.0001	<.0001	0.4037	<.0001	<.0001	.	0.0233

(W) = white

Table 8. Soft White Winter Wheat Dryland Nurseries, 3-Year Averages (2007-2009; 3 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Xerpha	31.0	58.5	82	6/20	22	0	10.5
Bitterroot	30.5	58.3	70	6/20	24	0	11.2
ORCF-102	30.3	58.4	80	6/19	22	0	11.4
Bruehl*	30.2	58.1	71	6/23	24	0	11.9
Bruneau	30.0	58.4	74	6/20	22	0	10.5
Tubbs 06	30.0	57.8	79	6/19	24	0	11.0
IDO 587	29.6	58.0	80	6/18	22	0	11.2
Coda*	29.5	58.4	68	6/20	21	0	11.2
Madsen	29.5	57.8	80	6/20	22	0	11.9
Daws	29.3	59.5	83	6/18	22	0	11.3
Simon	28.7	58.3	80	6/19	22	0	11.0
WB 528	28.5	60.2	83	6/17	22	0	10.6
UICF Lambert	28.2	57.8	75	6/17	24	0	10.9
ORCF-101	27.1	58.2	71	6/19	22	0	11.4
Brundage 96	26.7	56.9	83	6/19	21	0	10.3
Stephens	26.3	57.5	72	6/19	22	0	11.0
Clearfirst	26.0	57.5	72	6/20	22	0	11.9
Chukar*	25.8	56.5	80	6/23	19	0	11.0
Brundage	24.7	60.2	83	6/15	20	0	9.9
Lambert	24.6	57.2	76	6/17	23	0	10.9
Average	28.3	58.2	77	6/19	22	0	11.1
LSD (α =.05)	3.4	1.6	12.1	1.1	1.0	0.0	0.7
CV%	14.8	3.3	19.5	0.8	5.8	.	3.6
Pr > F	0.0002	0.0001	0.1680	<.0001	<.0001	.	<.0001

*club wheat

Table 9. Hard Spring Wheat Irrigated Nurseries, 3-Year Averages (2007-2009; 12 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Hard Spring Wheat							
Lolo (W)	119.9	61.2	100	6/27	35	4	12.3
Idaho 377s (W)	118.6	61.6	100	6/27	34	11	12.7
Otis (W)	117.3	61.6	100	6/28	38	3	12.3
Jerome	112.6	61.3	100	6/24	32	1	12.3
Cabernet	110.4	62.4	100	6/26	28	0	11.9
Iona	109.7	61.9	100	6/26	36	8	13.0
Jefferson	109.7	61.8	100	6/26	33	2	12.4
Lochsa (W)	109.6	60.6	100	6/26	34	0	13.2
RSI50603	109.4	62.3	100	6/26	30	0	12.5
RSI 03W10348 (W)	107.9	61.8	100	6/24	29	0	12.3
Choteau	107.0	61.4	100	6/28	33	2	13.5
Summit	106.1	60.0	100	6/28	26	0	12.2
Pristine (W)	105.2	62.9	100	6/23	34	1	13.7
WB936	104.8	60.8	100	6/25	30	0	13.0
Buck Pronto	104.5	61.5	100	6/23	32	0	13.3
Blanca Grande (W)	102.8	62.8	100	6/22	28	0	13.2
Tara 2002	102.2	61.0	100	6/25	35	1	12.8
Snow Crest (W)	99.9	62.0	100	6/22	27	0	13.4
Klasic (W)	98.6	62.3	99	6/23	25	0	12.8
Durum Wheat							
AP1526	104.9	62.1	99	6/28	37	6	11.0
Alzada	104.5	61.3	100	6/24	31	3	11.0
Kronos	103.9	61.4	100	6/23	29	1	11.0
Utopia	101.3	60.2	100	6/26	29	3	10.7
Matt	98.8	61.7	99	6/25	30	3	10.7
Average	107.4	61.6	100	6/25	32	2	12.4
LSD (α =.05)	4.3	0.6	0.5	0.4	0.7	2.6	0.6
CV%	9.9	2.5	1.1	0.5	5.8	299.8	6.2
Pr>F	<.0001	<.0001	0.0205	<.0001	<.0001	<.0001	<.0001

(W) = white

Table 10. Soft White Spring Wheat Irrigated Nurseries, 3-Year Averages (2007-2009; 12 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Alturas	119.6	60.8	99	6/20	34	2	9.9
Treasure	118.8	59.1	100	6/23	33	8	10.5
UI Pettit	118.7	61.0	100	6/16	30	0	10.5
Skookum	117.5	59.9	99	6/23	35	1	10.7
Alpowa	116.7	61.0	100	6/22	35	4	10.7
Challis	116.7	60.1	99	6/21	35	3	10.3
Waxy Penawawa	113.2	60.3	100	6/22	32	1	10.9
Nick	113.2	61.4	100	6/19	32	1	10.7
Cataldo	112.7	60.6	100	6/17	32	0	10.7
Penawawa	112.6	61.2	99	6/21	34	2	10.8
Whit	111.0	61.0	100	6/18	33	3	10.7
Average	115.5	60.6	100	6/20	33	2	10.6
LSD (α =.05)	4.2	0.3	0.6	0.4	0.7	2.9	0.4
CV %	9.0	1.1	1.5	0.5	4.8	290.4	4.9
Pr > F	<.0001	<.0001	0.2420	<.0001	<.0001	<.0001	0.0008

Table 11. 6-Row Barley Irrigated Nurseries, 3-Year Averages (2007-2009; 12 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)	Plump (> 6/64)	Plump (>5.5/64)	% Thin
Feed										
Millennium	139.8	50.0	99	6/23	35.0	6.7	10.6	72.2	14.2	9.4
Goldeneye	134.9	50.6	99	6/25	34.3	17.3	10.6	81.0	9.1	5.9
Aquila	130.3	51.2	97	6/22	34.3	15.6	10.2	78.7	9.8	6.2
Colter	128.9	50.0	99	6/24	33.9	20.6	9.1	74.3	12.7	8.3
Steptoe	127.5	48.7	99	6/25	33.5	32.8	9.7	79.7	8.7	6.0
Herald	127.2	49.8	99	6/24	35.1	15.3	10.1	79.8	9.6	6.0
Creel	126.7	50.9	99	6/24	34.7	20.9	10.1	77.2	11.2	7.8
Malt										
Legacy	118.7	51.3	99	6/25	36.2	41.8	11.4	81.6	8.4	5.9
Lacey	115.6	52.3	98	6/24	34.9	25.2	11.8	83.2	7.6	3.9
Tradition	114.2	51.9	99	6/25	36.2	20.6	11.5	84.4	6.6	3.4
Morex	110.9	50.5	99	6/26	35.4	44.0	11.6	72.2	13.2	10.4
Average	125.0	50.7	99	6/24	35	24	10.6	78.6	10.1	6.6
LSD (α =.05)	4.5	0.4	1.8	0.4	0.9	7.0	0.6	3.6	1.8	2.3
CV%	8.9	1.7	4.5	0.6	6.1	72.8	7.2	5.6	22.5	43.3
Pr > F	<.0001	<.0001	0.3223	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Table 12. 2-Row Barley Irrigated Nurseries, 3-Year Averages (2007-2009; 12 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)	Plump (> 6/64)	Plump (5.5/64)	% Thin
Feed										
Champion	143.9	53.3	99	6/27	32	28	10.9	87.0	8.5	4.8
Xena	141.9	52.6	100	6/29	32	29	10.6	87.4	7.6	5.0
Calgary	141.2	54.0	100	6/30	28	10	11.0	94.0	4.1	2.2
Spaulding	140.8	54.0	100	6/29	32	14	10.4	89.5	6.8	4.5
RWA 1758	138.9	53.2	100	6/29	29	26	10.6	89.4	6.9	4.5
Lenetah	137.2	53.1	100	6/29	32	35	11.1	91.7	5.2	3.6
Baronesse	136.3	52.8	99	6/29	31	33	10.9	89.6	6.5	4.9
Primo	136.1	52.4	100	6/29	30	30	10.5	87.7	7.2	5.1
CDC Bold	136.0	52.9	99	6/30	31	16	10.8	89.0	7.1	4.3
Idagold II	134.6	51.7	99	7/1	26	9	11.1	86.3	9.5	4.7
Burton	133.4	53.1	99	6/30	33	14	11.3	93.9	3.7	2.7
Tetonia	133.4	52.4	100	7/1	31	28	11.0	84.2	8.8	7.3
Boulder	131.5	54.5	98	6/28	31	26	11.0	92.9	4.1	3.1
Radiant	131.2	52.1	100	6/27	31	40	10.9	82.0	10.0	8.4
Camas	129.8	53.2	100	6/29	33	25	11.5	88.6	7.1	4.6
Haxby	124.8	54.1	98	6/29	32	22	11.1	92.5	4.6	3.2
Valier	122.5	52.9	100	6/30	32	26	11.9	87.8	7.6	5.1
CDC McGwire*	114.9	60.4	97	7/2	33	27	12.0	60.3	24.7	15.6
Hays	111.4	49.9	100	6/30	33	33	10.9	76.9	12.3	11.2
Clearwater*	109.5	56.9	96	6/30	32	42	12.7	73.7	16.4	10.8
Malt										
Geraldine	125.4	52.7	100	7/1	31	30	10.8	84.8	9.4	6.4
Conrad	125.3	52.2	100	6/30	31	27	11.7	89.5	5.3	3.3
Pinnacle	124.3	53.4	99	6/28	33	15	10.6	96.3	2.2	1.7
Merit 16	124.0	52.0	100	6/30	31	28	11.0	86.8	8.1	5.3
Hockett	119.6	53.0	100	6/28	31	31	11.5	91.0	5.3	4.0
Craft	118.6	53.0	100	6/28	34	26	11.7	91.2	5.4	3.8
B1202	118.3	51.6	100	6/30	31	27	11.8	90.6	6.3	3.4
Merit	118.1	50.7	100	7/2	32	24	10.8	84.5	9.2	6.4
CDC Stratus	116.0	52.8	99	6/30	32	25	11.9	92.5	5.2	2.9
AC Metcalfe	114.4	52.6	98	6/29	33	28	11.7	91.8	5.1	3.4
Harrington	110.5	51.5	100	7/1	33	41	11.8	81.1	11.0	8.1
Average	127.2	53.1	99	6/30	31	26	11.2	87.2	7.8	5.3
LSD (α =.05)	5.3	0.9	2.0	0.4	0.9	7.5	0.5	4.1	2.2	2.2
CV%	10.2	4.0	4.8	0.6	7.1	70.8	5.4	5.8	35.0	51.4
Pr > F	<.0001	<.0001	0.0003	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

*indicates hulless variety

Table 13. Hard Spring Wheat Dryland Nurseries, 3-Year Averages (2007-2009; 3 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Hard Spring Wheat							
Lolo (W)	45.3	59.2	97	7/17	24	0	10.9
Jefferson	42.4	57.7	95	7/15	22	0	13.4
Otis (W)	42.0	50.9	96	7/16	25	0	12.3
Lochsa (W)	41.1	58.8	95	7/15	23	0	11.3
Choteau	40.9	58.0	95	7/17	21	0	13.4
Blanca Grande (W)	40.7	60.6	95	7/13	21	0	12.8
Buck Pronto	39.9	58.7	95	7/15	21	0	14.2
Jerome	39.8	57.1	96	7/14	23	0	13.1
UI Winchester	39.2	59.3	94	7/15	20	0	12.6
Tara 2002	38.1	60.5	96	7/14	24	0	13.6
Klasic (W)	37.7	56.1	95	7/13	20	0	13.2
WB936	37.6	58.1	96	7/13	20	0	13.4
Snow Crest (W)	37.1	58.4	95	7/12	21	0	13.7
Iona	36.4	59.1	95	7/18	22	0	12.8
Pristine (W)	35.9	59.7	97	7/13	21	0	13.7
Idaho 377s (W)	35.6	57.5	96	7/15	21	0	12.8
Summit	34.6	57.1	92	7/17	18	0	12.3
Spring Durum							
AP1526	33.8	59.8	96	7/15	20	0	12.2
Kronos	31.6	57.5	91	7/17	21	0	11.9
Matt	30.3	58.7	93	7/16	20	0	12.5
Utopia	30.0	57.4	91	7/15	19	0	12.6
Average	37.6	58.1	95	7/15	21	0	12.8
LSD (α =.05)	5.5	4.9	3.2	1.1	1.8	0.0	1.4
CV%	18.3	10.4	4.3	0.7	10.6	.	6.4
Pr>F	<.0001	0.1673	0.0051	<.0001	<.0001	.	0.1319

(W) = white

Table 14. Soft White Spring Wheat Dryland Nurseries, 3-Year Averages (2007-2009; 3 site-years)

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Skookum	50.4	55.2	95	7/17	23	0	11.6
Cataldo	48.4	57.9	92	7/13	22	0	11.1
Treasure	48.0	56.4	95	7/20	22	0	11.6
Whit	47.3	56.1	95	7/16	23	0	11.6
Penawawa	44.6	58.4	93	7/18	22	0	11.8
Challis	44.5	56.8	95	7/19	23	0	11.1
Alturas	44.1	57.0	93	7/18	21	0	11.0
UI Pettit	41.4	58.8	92	7/14	20	0	11.3
Alpowa	38.9	54.3	94	7/19	23	0	11.8
Waxy Penawawa	37.8	57.6	92	7/19	20	0	12.3
Average	44.5	56.8	94	7/17	22	0	11.5
LSD (α =.05)	5.5	3.9	4.4	0.9	1.4	0.0	1.0
CV%	14.9	8.3	5.8	0.5	8.0	.	5.1
Pr > F	0.0025	0.331	0.7561	<.0001	<.0001	.	0.1928

Table 15. Irrigated Hard Winter Wheat Data Combined from Kimberly, Rupert, and Aberdeen, 2009.

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in)	Lodging (%)	Protein (%)
NuHorizon (W)	134.3	63.5	94	6/1	37	13	11.3
BC002-02	132.4	61.5	92	6/2	36	33	13.3
Norwest 553	131.9	60.1	97	6/4	34	19	12.4
Deloris	129.9	62.1	95	6/5	44	20	11.9
ML9W05-2501	129.5	61.5	95	6/4	38	16	12.1
Yellowstone	128.1	61.5	96	6/2	39	14	11.8
IDO 621	127.2	60.2	96	6/5	35	46	12.0
Promontory	125.9	61.5	94	6/4	39	36	12.4
Whetstone	124.0	61.5	94	5/30	36	8	12.8
NuHills	121.3	62.4	97	5/31	35	42	12.5
Curlew	120.7	59.9	97	6/3	42	54	14.1
Boundary	119.6	59.6	97	6/5	36	31	11.7
MT0495	119.4	59.7	96	6/3	36	31	13.3
Eddy	119.1	61.8	95	6/3	36	25	12.1
Moreland	119.1	59.2	93	6/3	35	23	13.0
Garland	119.0	57.6	96	6/6	28	0	13.1
AgriPro Paladin	118.9	60.4	98	6/3	36	21	12.8
Utah 100	118.8	59.2	95	6/6	44	24	12.2
Gary (W)	115.2	59.0	98	6/7	42	66	12.6
Esperia	115.2	60.5	96	5/31	31	0	12.3
Manning	115.0	60.4	89	6/4	39	63	12.2
DW	113.3	60.2	97	6/5	38	63	12.6
UI Darwin (W)	112.7	60.8	98	6/5	42	65	13.6
Bonneville	109.4	61.4	97	6/9	45	58	13.9
MDM (W)	109.1	57.2	97	6/9	38	63	14.4
Bauermeister	108.0	56.0	97	6/9	39	63	13.7
Weston	107.3	61.1	97	6/3	43	59	13.5
Golden Spike (W)	102.7	58.6	95	6/7	40	63	12.8
Mieti (W)	100.0	59.2	88	6/1	29	3	14.0
Mol (W)	97.3	62.0	92	6/1	29	0	14.2
Average	118.1	60.3	95	6/4	37	34	12.8
LSD (α = .05)	10.4	1.2	5.2	1.1	1.7	18.4	0.9
CV%	10.9	2.6	6.8	0.9	5.7	67.1	4.4
Pr >F	<.0001	<.0001	0.0223	<.0001	<.0001	<.0001	<.0001

Table 16. Irrigated Soft White Winter Wheat Data Combined from Kimberly, Rupert, and Aberdeen, 2009.

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand %	Heading Date	Height (in)	Lodging (%)	Protein (%)
Tubbs 06	135.2	58.6	98	6/6	39	8	10.3
Lambert	134.9	58.7	98	6/4	40	15	10.4
ID-D-05	133.9	61.3	98	6/3	35	0	10.7
Legion	133.2	58.1	99	6/6	38	21	10.2
Bitterroot	133.0	59.7	96	6/7	40	7	10.2
ORCF-102	132.9	59.9	96	6/6	39	0	9.9
Bruneau	132.9	59.3	97	6/7	37	14	9.8
Coda*	132.3	60.9	99	6/9	39	19	11.0
Simon	129.9	59.4	97	6/6	38	8	10.8
Madsen	129.9	58.8	96	6/8	37	7	11.2
Brundage 96	129.6	58.8	98	6/6	35	0	10.4
Brundage	129.2	61.1	97	6/1	35	0	9.8
WB 528	129.0	60.4	98	6/2	36	15	10.3
ORCF-101	128.4	59.1	97	6/6	36	0	10.9
Salute	127.8	58.0	98	6/6	39	13	10.7
UICF Lambert	127.5	58.9	97	6/3	38	14	10.5
IDO 587	127.4	58.2	97	6/4	39	23	10.9
Xerpha	127.2	58.7	98	6/9	37	8	10.5
Westbred 470	126.6	62.7	98	6/1	36	12	11.2
Bruehl*	125.0	56.4	97	6/10	38	9	11.2
Goetze	124.9	58.3	98	5/31	32	0	10.6
UICF Brundage	124.6	57.9	97	6/6	35	4	10.8
00-475-2DH	124.3	59.3	97	6/7	36	20	10.9
WB 456	123.8	61.5	97	5/31	34	6	11.5
Daws	123.1	59.4	98	6/7	39	16	10.6
Stephens	122.5	59.6	98	6/6	37	14	10.8
Clearfirst	121.5	59.5	89	6/7	37	8	10.8
Skiles	121.4	59.0	97	6/6	35	7	11.0
IDO 655	121.3	60.3	97	6/7	41	16	10.5
Chukar*	118.5	57.4	99	5/30	35	24	11.3
Average	127.7	59.3	97	6/5	37	10	10.7
LSD (α = .05)	9.4	1.1	4.3	5.4	2.2	15.1	0.8
CV %	9.1	2.3	5.5	4.2	7.2	182.5	4.6
Pr > F	0.0110	<.0001	0.2354	0.0016	<.0001	0.0116	0.0025

* indicates club wheat variety

Table 17. Irrigated Winter Barley Data Combined from Rupert and Aberdeen 2009.

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand	Heading Date	Height (in)	Lodging (%)	Protein (%)	Plump (>6/64)	Plump (>5.5/64)	% Thin
Sunstar Pride	183.3	49.6	93	5/21	31	54	8.6	63.2	21.1	16.3
93Ab669	173.1	50.4	88	5/28	37	13	11.2	80.7	13.7	6.4
91Ab36	172.2	48.4	90	6/1	34	11	10.0	80.9	13.3	6.6
02Ab2701	169.2	49.4	91	5/31	38	11	10.9	80.3	13.0	7.2
91Ab23	169.1	49.5	91	5/30	31	11	9.8	79.0	14.1	7.4
92Ab561	162.4	51.0	90	5/29	35	9	10.7	82.3	13.0	5.4
97Ab11	162.2	50.9	89	6/5	35	23	10.2	79.7	13.7	7.4
Eight-Twelve	162.1	50.1	91	5/28	34	28	10.2	85.3	10.3	5.3
93Ab631	161.8	47.2	89	5/28	33	26	9.2	63.8	21.6	15.5
02Ab2739	160.4	48.6	91	6/1	34	9	10.3	74.2	16.1	10.3
94Ab1777	159.4	49.0	88	5/29	39	16	11.7	59.3	23.5	18.1
02Ab2732	159.1	47.1	90	6/2	40	19	9.8	65.3	19.7	15.5
97BX42-116-17A	157.9	49.3	88	6/2	38	34	11.3	65.4	22.0	13.2
92Ab1308	157.7	49.1	91	5/28	36	19	11.8	72.2	17.6	10.7
Sprinter	156.9	50.6	87	6/2	39	15	11.3	74.1	19.2	7.5
OR74	153.9	51.0	95	5/29	35	11	11.5	92.0	6.2	2.8
Strider	152.8	49.6	94	5/26	32	17	11.4	86.3	10.2	4.2
OR75	147.5	51.2	97	5/29	36	7	10.6	92.8	5.6	2.3
OR73	146.2	50.9	93	5/29	34	12	10.4	91.9	6.5	2.4
OR77	146.1	51.2	94	5/29	37	10	11.3	92.1	6.0	2.7
Endeavor	146.0	52.1	92	5/30	34	23	12.1	88.1	7.9	4.9
Charles	145.5	50.0	93	5/29	30	32	11.4	89.3	6.4	5.2
Schuyler	145.0	50.6	84	6/1	37	13	11.4	70.3	18.5	11.6
OR78	144.2	50.8	94	5/29	34	2	11.4	91.6	6.4	2.6
96AB69	141.4	49.6	83	5/29	32	11	10.4	69.2	20.7	10.9
Maja	138.3	52.2	80	5/27	34	2	10.5	90.5	7.8	2.7
88Ab536B	136.8	49.7	88	5/28	37	0	11.4	80.9	12.5	4.9
02Ab339	131.9	51.7	87	6/2	36	10	11.1	83.6	12.1	4.8
OR72	130.9	52.2	89	5/27	36	10	11.4	90.6	6.8	3.5
OR76	121.2	50.6	93	5/26	33	0	12.9	94.4	4.6	2.0
Average	153.1	50.1	90	5/29	35	15	10.8	80.3	13.0	7.3
LSD (α = .05)	16.5	0.8	7.1	8.2	3.9	29.5	1.2	11.1	5.6	6.6
CV %	10.8	1.8	8.0	5.5	11.2	194.9	5.6	6.8	20.9	44.3
Pr > F	<.0001	<.0001	0.0028	0.5595	<.0001	0.2776	<.0001	<.0001	<.0001	0.0001

Table 18. Irrigated Hard Spring Wheat Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2009.

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand	Heading Date	Height (in)	Lodging (%)	Protein (%)
Idaho 377s (W)	128.5	63.1	100	6/29	37	0	11.1
Otis (W)	126.9	62.8	100	6/30	41	0	10.9
Lolo (W)	125.4	62.4	100	6/29	38	0	11.2
Jerome	117.2	62.3	100	6/26	35	0	11.0
Lochsa (W)	115.2	61.5	100	6/29	36	0	11.9
IDO 667	114.9	64.0	100	6/28	35	0	11.1
Bullseye	114.2	64.3	100	6/29	33	0	10.9
Jefferson	113.8	62.8	100	6/29	36	0	10.8
Iona	112.6	63.1	100	6/29	40	0	11.8
OR 4990114	109.8	61.8	100	6/25	34	0	11.0
BZ904-336 WP (W)	109.0	62.6	100	6/27	33	0	11.7
UI Winchester	107.9	62.4	100	6/28	34	0	11.4
BZ901-717	107.8	63.1	100	6/27	37	0	11.5
WestBred 936	107.8	61.5	100	6/26	33	0	11.6
AP1526	107.7	62.8	100	6/30	40	0	9.5
RSI 50603	107.6	62.7	100	6/29	33	0	11.8
Cabernet	106.7	62.9	99	6/28	30	0	11.1
Choteau	106.5	62.4	100	6/30	36	0	12.2
WB-Paloma (W)	106.5	63.4	100	6/26	31	0	11.7
Alzada	106.1	62.7	100	6/26	35	0	9.2
Summit	106.1	61.2	100	6/30	29	0	11.0
RSI 40292R	106.0	61.2	99	7/1	34	0	11.1
Pristine (W)	105.4	63.0	100	6/25	36	0	12.2
Buck Pronto	105.3	62.5	100	6/25	35	0	11.8
Tara 2002	105.2	61.8	100	6/26	39	0	11.1
Utopia	105.0	61.1	100	6/29	31	0	9.2
RSI 03W10348 (W)	104.8	61.9	99	6/26	32	0	11.7
NPB HR 70	102.3	61.5	100	6/27	35	0	11.3
Kelse	102.2	62.1	100	6/29	36	0	12.2
Blanca Grande (W)	101.3	63.3	100	6/24	30	0	12.1
Kronos	100.8	61.7	99.4	6/25	30	0	9.7
Klasic (W)	100.1	63.1	99.8	6/25	28	0	11.2
Matt	99.5	62.3	99.0	6/27	33	0	9.1
Snow Crest (W)	98.6	62.8	100.0	6/24	31	0	12.2
Average	108.4	62.5	100	6/27	34	0	11.2
LSD (α = .05)	5.2	0.4	0.4	0.8	1.0	0	0.6
CV%	6.9	0.9	0.6	0.6	4.4	.	3.6
Pr > F	<.0001	<.0001	<.0001	<.0001	<.0001	.	<.0001

Table 19. Irrigated Soft White Spring Wheat Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen 2009

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand	Heading Date	Height (in)	Lodging (%)	Protein (%)
Treasure	127.0	60.0	100	7/2	36	0	8.9
IDO671	126.2	61.6	100	6/30	37	0	8.7
IDO644	123.1	60.5	100	6/26	35	0	8.7
IDO668	123.1	61.4	100	6/29	36	0	9.0
BZ604-002	121.9	62.1	100	6/27	36	0	8.6
IDO599	121.7	61.1	100	6/27	36	0	8.8
IDO629	120.3	61.6	100	7/3	39	0	8.9
Skookum	120.1	60.1	100	7/3	37	0	9.2
Challis	119.7	61.0	100	7/1	37	0	8.8
IDO630	119.5	61.4	100	7/1	36	0	9.7
Alturas	119.2	61.1	100	7/1	35	0	8.5
IDO669	119.0	61.4	100	6/30	39	0	8.9
WA008039	119.0	62.7	100	7/1	38	0	8.8
Alpowa	118.5	61.6	100	7/2	38	0	8.9
UI Pettit	117.9	61.3	99	6/25	32	0	9.2
Cataldo	113.5	61.1	100	6/26	34	0	9.3
Nick	112.9	61.8	100	6/28	35	0	9.2
Waxy Penawawa	112.8	61.3	100	7/2	34	0	9.5
Penawawa	112.7	62.3	99	7/1	36	0	8.8
WA008090	112.7	61.0	100	6/30	38	0	9.2
Whit	113.8	61.9	100	6/28	36	0	9.0
Average	118.8	61.3	100	6/30	36	0	9.0
LSD (α = .05)	6.3	0.4	0.4	0.6	1.1	0.0	0.5
CV%	7.5	0.9	0.6	0.5	4.2	.	4.1
Pr > F	<.0001	<.0001	0.0006	<.0001	<.0001	.	0.0019

Table 20. Irrigated 6-Row Spring Barley Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2009

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand	Heading Date	Height (in)	Lodging (%)	Protein (%)	Plumps (>6/64)	Plumps (>5.5/64)	% Thin
Feed										
Millennium	123.1	50.5	99	6/25	37	5	9.4	76.0	15.9	8.8
UT04B2041-42	122.9	50.8	100	6/29	36	13	9.4	79.7	12.5	8.4
Creel	122.7	51.2	99	6/26	37	12	8.2	77.9	14.6	8.4
Goldeneye	120.7	51.7	99	6/28	36	16	9.7	82.8	10.8	6.7
Steptoe	119.9	49.3	100	6/26	35	20	8.5	86.3	9.2	5.2
Colter	119.2	50.7	100	6/27	36	2	8.0	79.8	13.6	7.2
UT99B1670-3530	118.4	50.3	100	6/27	37	10	9.0	91.3	7.4	3.4
Herald	116.4	49.4	99	6/27	38	3	8.7	82.6	11.6	6.3
Aquila	112.0	52.4	99	6/24	37	4	9.6	85.5	9.5	5.0
Malt										
Morex	109.9	51.0	100	6/29	37	32	10.2	76.2	14.8	9.5
Legacy	105.6	51.8	99	6/28	38	30	10.0	84.9	10.3	5.5
Lacey	101.7	52.7	99	6/27	37	15	10.3	89.0	8.4	3.2
Tradition	99.0	52.5	100	6/27	39	2	10.3	91.6	6.7	2.5
Celebration	92.8	51.6	99	6/29	36	21	11.3	88.1	9.0	3.5
Average	113.8	51.3	99	6/28	37	13	9.5	84.4	10.5	5.7
LSD (α = .05)	7.9	0.5	0.8	0.7	1.5	10.6	0.7	6.4	3.4	3.3
CV%	10.0	1.4	1.1	0.6	5.9	114.5	5.1	5.3	22.7	40.8
Pr > F	<.0001	<.0001	0.1893	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0001

Table 21. Irrigated 2-Row Spring Barley Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2009.

Variety	Yield (bu/A)	Test Wt (lb/bu)	Spring Stand	Heading Date	Height (in)	Lodging (%)	Protein (%)	Plumps (>6/64)	Plumps (>5.5/64)	% Thin
Feed										
Spaulding	137.2	55.0	100	7/2	34	3	9.5	94.0	5.8	2.5
Baronesse	137.1	53.9	100	7/2	31	8	9.0	90.9	6.0	3.4
RWA 1758	136.1	53.8	100	7/2	29	3	9.0	91.0	6.7	2.9
Xena	133.6	53.4	100	7/1	33	20	9.5	87.1	8.5	4.5
Primo	133.4	53.2	100	7/2	30	13	8.9	87.5	8.4	4.5
02WA-1095	132.7	52.5	100	7/2	31	36	9.1	85.1	9.1	6.5
Lenetah	132.5	54.0	100	7/2	33	33	9.7	94.8	4.1	2.2
Idagold II	132.5	53.0	98	7/4	25	0	9.7	90.4	7.4	2.8
2Ab04-X00017-4	132.4	53.7	100	7/1	33	19	9.4	94.0	3.8	2.6
Champion	131.8	54.0	100	7/1	32	10	9.5	88.8	8.2	3.5
Calgary	131.1	54.4	100	7/2	29	0	9.5	94.5	4.0	1.9
02WA-7028.9	129.1	53.4	100	7/1	33	8	9.9	90.4	6.9	3.3
Radiant	128.4	53.6	100	7/2	33	18	9.0	82.6	11.2	6.5
Tetonia	128.3	53.4	100	7/3	33	12	9.4	85.5	8.8	6.2
CDC Bold	125.1	52.9	100	7/2	33	8	9.7	90.8	6.4	3.1
Burton	123.5	53.7	100	7/2	34	6	9.7	93.8	3.9	2.8
Boulder	123.1	55.1	94	7/1	32	14	9.5	93.4	3.8	2.5
Camas	120.3	53.8	99	7/2	34	12	10.4	91.5	5.9	3.0
Haxby	113.8	54.6	98	7/1	33	10	9.5	94.4	4.0	2.3
CDC McGwire*	113.3	61.3	99	7/4	33	7	10.4	61.6	27.3	11.5
Valier	113.2	53.7	100	7/3	33	14	10.0	90.6	7.5	3.0
03AH6561-94	108.5	60.8	97	7/8	34	0	11.7	91.7	6.5	2.1
Hays	107.2	51.1	100	7/3	34	8	9.6	81.0	11.1	8.4
Clearwater*	102.2	55.0	94	7/2	32	23	11.4	76.3	15.9	8.3
03AH3054-51	88.1	58.5	100	7/4	34	4	11.1	79.6	15.2	5.3
Malt										
Conrad	125.8	53.1	100	7/2	32	13	10.2	93.8	4.5	2.1
02Ab17271	123.6	51.4	100	7/7	33	10	9.7	85.6	9.1	5.8
Copeland	123.3	53.6	99	7/3	37	14	10.2	94.7	3.7	2.3
Geraldine	122.8	53.4	100	7/4	32	10	9.0	86.5	9.1	4.8
Pinnacle	119.0	54.0	98	6/30	36	1	9.5	97.6	1.8	1.3
Merit	117.0	51.1	99	7/5	34	12	9.4	84.3	10.2	6.2
02Ab17373	116.4	52.0	100	7/5	34	13	10.0	87.4	7.0	4.5
Merit 16	113.9	52.1	100	7/2	32	11	9.6	84.7	9.9	5.7
AC Metcalfe	113.8	53.4	100	7/2	35	18	10.1	93.2	4.3	2.9
Craft	112.3	54.1	100	6/30	35	9	10.4	92.3	5.1	3.2
Hockett	110.9	53.6	100	7/1	32	28	9.8	92.8	5.0	2.8
B1202	110.1	52.3	100	7/2	33	15	10.2	91.8	5.8	2.7
CDC Stratus	108.0	52.9	100	7/3	33	9	10.3	94.0	4.4	2.0
Harrington	103.1	52.4	99	7/3	34	37	10.3	83.7	9.9	6.6
Average	120.9	53.8	99	7/2	33	13	9.8	88.9	7.5	4.0
LSD (α = .05)	8.6	2.0	3.2	0.8	1.5	13.1	0.8	5.9	3.8	2.8
CV%	10.2	5.5	4.6	0.6	6.5	146.5	5.7	4.6	34.5	49.3
Pr > F	<.0001	<.0001	0.1006	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

* indicates hulless variety

Table 22. Agronomic data for winter wheat at Kimberly, irrigated, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand%	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Hard Winter Wheat									
Norwest 553	---	---	149.1	61.5	99	6/1	36	0	11.0
Promontory	114.6	130.6	146.4	62.7	98	6/2	41	41	10.9
NuHorizon (W)	115.3	134.5	145.7	64.7	96	5/30	40	21	10.3
BC002-02	---	---	145.3	63.0	99	5/31	38	35	11.6
ML9W05-2501	---	---	143.4	63.4	98	6/2	41	1	11.0
AgriPro Paladin	110.6	119.4	143.0	63.1	100	6/2	38	1	10.9
Yellowstone	118.3	141.8	142.9	63.0	98	6/1	42	0	10.3
Eddy	112.0	129.2	138.9	63.7	98	6/2	39	13	10.9
MT0495	---	138.2	138.7	61.2	97	6/2	39	24	11.3
IDO 621	121.4	147.5	138.6	61.3	100	6/4	37	59	11.2
Utah 100	112.4	119.3	137.2	60.4	98	6/5	45	26	10.9
Curlew	---	---	137.0	61.0	99	6/1	42	70	13.1
NuHills (W)	96.1	113.9	136.6	64.0	98	5/29	40	45	11.3
Whetstone	108.2	132.3	135.6	63.1	98	5/29	38	1	11.3
Deloris	102.3	146.3	135.6	62.6	98	6/4	46	41	10.9
Moreland	106.1	154.8	133.6	60.6	99	6/2	39	35	11.9
Boundary	115.9	122.5	129.5	62.3	99	6/3	38	21	10.3
MDM (W)	123.3	153.9	128.2	59.6	98	6/9	42	91	12.3
Bauermeister	110.4	162.1	124.5	59.2	99	6/9	42	93	11.9
Garland	109.2	131.2	123.5	58.9	99	6/6	28	0	12.1
DW	102.9	127.5	123.0	60.0	99	6/4	41	94	11.9
Manning	105.7	126.2	122.1	60.1	98	6/3	41	96	11.5
Esperia	---	---	121.9	62.0	98	5/29	33	0	11.1
Bonneville	100.2	122.9	119.9	62.9	99	6/8	49	81	12.7
Gary (W)	109.0	131.6	119.6	60.1	98	6/5	44	98	12.4
Golden Spike (W)	106.9	149.8	118.3	59.7	98	6/5	43	97	11.4
UI Darwin (W)	102.5	127.3	115.8	61.3	98	6/4	45	95	12.3
Mieti (W)	---	---	111.2	62.0	98	5/28	33	0	12.0
Weston	97.2	127.2	109.8	61.1	99	6/2	43	94	12.4
Mol (W)	---	---	105.9	63.0	98	5/30	31	1	13.1
Average	109.1	134.3	130.7	61.7	98	6/2	40	42	11.5
LSD (α=.05)	13.5	4.0	13.3	1.8	2	1	3	38	
CV %	8.9	13.5	7.2	2.1	2	1	6	64	
Pr > F	0.0002	0.0045	0.0001	<.0001	0.1903	0.0001	0.0001	0.0001	

(W) = White

Table 23. Agronomic data for winter wheat at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in.)**	**(%)**	**(%)**
Hard Winter Wheat									
NuHorizon (W)	113.3	111.4	139.8	63.1	98	6/3	40	18	11.6
Whetstone	119.3	111.1	131.8	60.1	99	5/31	37	24	13.0
ML9W05-2501	---	---	129.1	59.6	98	6/4	40	49	12.3
BC002-02	---	---	124.4	59.6	81	6/1	36	64	14.2
Norwest 553	---	---	124.0	57.5	99	6/6	35	58	13.1
NuHills (W)	115.7	104.4	122.7	60.3	99	6/1	35	81	12.6
Esperia	---	---	122.2	59.6	99	6/2	32	0	12.7
Deloris	101.0	112.9	120.3	61.7	94	6/4	43	20	11.9
Boundary	109.2	105.9	118.8	58.1	99	6/7	37	71	12.5
Promontory	126.8	117.9	118.6	59.4	96	6/5	41	68	13.3
Moreland	118.6	105.3	115.9	57.0	100	6/3	37	33	12.9
Garland	111.5	111.4	114.9	55.6	98	6/4	28	1	14.0
Yellowstone	123.7	107.0	113.5	60.1	98	6/2	40	43	12.4
IDO 621	126.5	110.5	112.4	58.8	100	6/6	34	80	12.6
MT0495	---	108.0	109.0	57.7	99	6/5	37	68	14.2
Curlew	---	111.4	108.8	56.9	100	6/5	43	93	14.7
Eddy	116.2	102.1	106.1	59.8	97	6/3	38	62	12.3
Utah 100	114.2	112.5	103.1	56.8	98	6/8	46	46	12.8
AgriPro Paladin	104.4	106.6	102.5	56.2	99	6/5	38	63	13.9
Mieti (W)	---	---	99.1	57.3	97	6/1	29	8	15.3
Manning	111.7	110.2	98.3	59.2	77	6/6	39	93	12.6
DW	107.4	109.5	96.9	59.2	98	6/8	36	94	13.0
Bonneville	93.8	97.2	95.6	60.4	100	6/11	43	91	14.9
Weston	99.9	87.0	93.4	59.5	100	6/5	41	83	14.4
MDM (W)	103.0	99.1	93.0	54.4	99	6/11	37	98	16.6
Mol (W)	---	---	91.5	61.7	97	6/3	28	0	14.9
UI Darwin (W)	102.1	87.4	87.7	58.8	100	6/7	42	100	15.3
Gary (W)	108.8	104.6	86.6	56.5	99	6/9	42	100	13.1
Golden Spike (W)	114.0	108.2	82.6	55.8	99	6/10	39	93	13.5
Bauermeister	98.1	110.8	80.1	52.8	98	6/12	38	97	15.1
Average	112.8	106.3	108.1	58.4	97	6/5	38	60	14
LSD (α=.05)	20.2	11.3	20.5	3.0	12.2	2.5	3.0	40.3	
CV %	12.6	7.7	13.4	3.7	8.9	1.1	5.6	48.0	
Pr > F	0.0004	<.0001	<.0001	<.0001	0.1146	<.0001	<.0001	<.0001	

(W) = White

Table 24. Agronomic data for winter wheat at Aberdeen, irrigated, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Hard Winter Wheat									
UI Darwin (W)	126.5	96.4	134.7	62.2	95	6/5	40	0	13.2
Deloris	134.4	101.9	133.9	62.1	94	6/6	41	0	13.0
Gary (W)	112.2	98.3	132.3	60.4	96	6/6	39	0	12.4
IDO 621	147.9	109.5	130.7	60.6	90	6/5	33	0	12.1
Yellowstone	139.9	95.2	128.1	61.5	91	6/4	37	0	12.8
BC002-02	---	---	127.6	61.8	96	6/4	34	0	14.3
Manning	132.5	103.0	124.5	61.7	91	6/4	39	0	12.5
Norwest 553	---	---	122.6	61.3	93	6/4	32	0	13.2
DW	140.4	97.0	119.8	61.4	94	6/4	37	0	13.0
Bauermeister	129.9	112.4	119.4	56.0	96	6/7	37	0	14.1
Garland	122.4	83.9	118.7	58.3	91	6/7	27	0	13.3
Weston	123.0	76.8	118.7	62.6	91	6/3	44	0	13.6
NuHorizon (W)	132.7	94.7	117.5	62.8	89	6/1	32	0	11.9
Curlew	---	88.0	116.3	61.7	93	6/3	40	0	14.4
ML9W05-2501	---	---	115.9	61.5	90	6/4	34	0	13.0
Utah 100	125.5	99.7	115.9	60.4	89	6/5	41	0	12.8
Promontory	138.6	87.6	112.8	62.4	89	6/4	36	0	13.0
Bonneville	132.8	116.7	112.8	61.0	94	6/8	43	0	14.1
Eddy	138.4	93.2	112.4	62.0	91	6/5	32	0	13.0
AgriPro Paladin	145.5	77.3	111.3	62.0	95	6/3	31	0	13.7
Boundary	120.9	92.0	110.5	58.6	93	6/6	34	0	12.2
MT0495	---	102.4	110.4	60.3	93	6/3	34	0	14.3
Moreland	130.2	105.4	107.7	60.0	81	6/3	30	0	14.1
Golden Spike (W)	131.3	110.0	107.4	60.4	89	6/5	38	0	13.5
MDM (W)	140.2	97.7	106.2	57.6	94	6/8	36	0	14.3
NuHills (W)	106.2	73.9	104.6	62.8	93	5/31	31	0	13.5
Whetstone	140.0	99.4	104.6	61.4	85	6/1	33	0	14.3
Esperia	---	---	101.5	59.9	91	5/31	30	0	13.2
Mol (W)	---	---	94.4	61.3	81	6/3	28	0	14.7
Mieti (W)	---	---	89.8	58.2	70	6/5	26	0	14.7
Average	130.0	96.4	115.4	60.8	91	6/4	35	0	13.4
LSD (α=.05)	20.8	18.3	19.8	1.3	9.8	1.9	2.6	0	
CV %	11.2	13.6	12.2	1.5	7.7	0.85	5.4	0	
Pr > F	0.0062	<.0001	0.0006	<.0001	0.0011	<.0001	<.0001	0	

(W) = White

Table 25. Agronomic data for winter wheat at Ririe, dryland, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Hard Winter Wheat									
Bauermeister	22.4	25.3	55.6	60.4	85	6/25	28	0	10.9
UI Silver (W)	---	---	53.9	62.9	83	6/21	26	0	11.9
MDM (W)	20.2	25.6	53.6	59.9	86	6/25	27	0	12.1
Deloris	23.2	27.3	53.3	61.5	82	6/22	31	0	12.6
IDO 621	---	---	53.0	62.0	83	6/22	25	0	11.5
Curlew	---	26.4	51.3	62.5	91	6/18	29	0	13.1
NuHorizon (W)	26.6	22.1	50.6	63.0	85	6/17	26	0	11.2
Gary (W)	23.0	21.3	50.5	61.9	85	6/22	28	0	11.6
Norwest 553	---	---	49.9	61.5	85	6/22	24	0	11.5
Boundary	24.1	24.7	49.8	60.6	84	6/23	23	0	11.7
Moreland	21.3	21.1	49.4	61.3	83	6/18	25	0	12.7
Garland	22.3	17.4	49.4	60.8	86	6/22	22	0	12.4
ML9W05-2501	---	---	48.8	63.0	90	6/18	26	0	11.7
Juniper	20.8	20.0	48.7	61.2	88	6/22	22	0	12.6
Utah 100	26.1	27.9	48.3	61.8	84	6/20	30	0	12.5
DW	21.3	21.6	48.1	62.0	85	6/20	25	0	12.9
Weston	21.6	24.8	46.9	63.1	85	6/20	30	0	12.8
Bonneville	21.2	26.2	46.7	62.7	88	6/24	28	0	12.6
UICF Grace (W)	---	---	46.3	61.7	92	6/20	32	0	11.6
Manning	---	20.5	46.3	62.7	81	6/18	26	0	11.7
Yellowstone	23.6	23.0	46.0	62.7	87	6/20	26	0	11.6
Golden Spike (W)	23.2	25.8	45.4	62.0	87	6/21	27	0	11.6
MT0495	---	22.9	45.4	61.7	90	6/19	23	0	11.1
Promontory	22.6	22.0	45.4	63.4	89	6/19	26	0	11.8
UI Darwin (W)	20.3	23.7	42.7	62.8	88	6/20	29	0	13.1
Eddy	---	24.2	42.2	62.8	85	6/18	26	0	12.8
NuHills (W)	20.7	20.2	40.3	62.8	80	6/18	24	0	12.4
Esperia	---	---	31.7	61.5	87	6/15	19	0	13.1
Mieti (W)	---	---	29.7	61.3	80	6/17	17	0	12.4
Mol (W)	---	---	28.1	62.1	85	6/19	18	0	13.9
Average	22.9	23.3	46.6	62.0	85	6/20	25	0	12.2
LSD (α=.05)	3.9	5.3	7.5	0.9	7.4	1.7	1.9	0	
CV %	12.1	16.2	11.5	1.0	6.2	0.7	5.3	0	
Pr > F	0.0401	0.0024	<.0001	<.0001	<.0001	<.0001	<.0001	0	

(W) = White

Table 26. Agronomic data for winter wheat at Preston, dryland, 2009.

Variety	Yield (bu/A) 2008	Yield (bu/A) 2009	Test Wt. (lb/bu)	Heading Date	Height (in.)	Protein (%)
Hard Winter Wheat						
Promontory	8.5	102.1	61.4	6/11	40	13.6
Norwest 553	---	101.6	59.0	6/10	32	14.0
UI Silver (W)	---	101.3	59.4	6/13	39	13.9
IDO 621	---	100.3	59.5	6/14	35	13.2
NuHorizon (W)	8.3	99.2	62.1	6/9	38	13.4
Yellowstone	6.4	99.1	59.4	6/10	39	13.6
Deloris	9.7	98.6	60.9	6/14	44	13.7
NuHills	7.0	97.3	63.2	6/7	34	14.3
DW	9.6	97.1	59.9	6/13	40	13.9
Utah 100	8.7	96.4	58.1	6/14	43	13.7
ML9W05-2501	---	95.6	59.9	6/10	37	13.6
Golden Spike (W)	19.8	94.5	58.4	6/15	42	14.1
MT0495	18.3	94.5	56.8	6/12	37	14.6
Moreland	14.5	93.9	57.8	6/9	35	14.4
Curlew	6.2	93.8	57.5	6/12	42	14.5
Esperia	---	93.2	59.7	6/7	29	13.6
MDM (W)	9.2	91.2	54.8	6/16	40	15.9
Manning	13.1	89.4	59.3	6/12	41	13.8
Gary (W)	10.0	88.7	57.9	6/12	42	14.1
Bauermeister	8.7	88.4	53.6	6/15	38	15.5
Boundary	7.8	87.8	57.3	6/14	35	14.1
Eddy	5.6	86.0	59.6	6/10	34	13.9
Garland	9.6	85.5	55.0	6/14	27	14.8
UI Darwin (W)	5.9	85.5	61.7	6/12	44	14.2
Juniper	8.1	84.7	53.9	6/13	28	15.2
UICF Grace (W)	---	78.7	58.5	6/13	50	15.1
Weston	22.0	78.6	60.9	6/12	48	14.4
Mol (W)	---	74.0	60.8	6/8	29	15.4
Bonneville	9.1	69.0	58.7	6/17	47	15.3
Mieti (W)	---	68.7	57.0	6/9	27	15.2
Average	10.3	90.5	58.7	6/12	38	14.3
LSD (a=.05)	9.6	8.6	1.3	1.9	2.0	
CV %	57.3	6.7	1.5	0.8	3.8	
Pr >F	0.0117	<.0001	<.0001	<.0001	<.0001	

(W) = White

Table 27. Agronomic data for winter wheat at Kimberly, irrigated, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand%	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Soft White Winter Wheat									
Legion	---	---	151.7	59.0	100	6/4	41	15	8.8
Tubbs 06	126.3	150.9	150.0	60.5	98	6/4	41	0	8.6
00-475-2DH	---	148.6	149.7	62.8	99	6/5	39	0	8.5
Bruneau	131.1	144.5	146.5	60.6	99	6/6	39	0	7.7
Lambert	120.1	124.5	146.3	60.1	100	6/2	42	0	8.6
ORCF-102	121.2	130.4	146.1	60.8	99	6/5	40	0	8.7
Brundage	117.6	149.1	144.2	62.6	99	5/31	36	0	8.6
Bitterroot	---	148.4	142.4	60.4	98	6/6	43	0	8.5
ID-D-05	---	---	141.8	62.9	100	5/31	38	0	8.6
WestBred 528	118.8	140.5	141.0	61.7	99	5/31	38	0	8.4
Madsen	115.9	131.4	140.8	61.0	99	6/6	39	0	9.0
UICF Lambert	118.7	138.4	140.2	60.0	99	6/1	41	0	8.6
Salute	---	145.0	140.1	59.7	100	6/3	40	0	8.9
Westbred 470	---	---	139.9	63.8	99	5/31	38	0	8.9
Coda*	119.7	129.3	139.8	62.1	99	6/7	40	1	9.4
Simon	112.9	136.8	139.2	60.8	99	6/3	39	0	8.8
Daws	112.6	131.1	138.8	61.8	99	6/5	41	0	8.8
Brundage 96	118.3	138.5	136.9	59.8	99	6/4	36	0	9.0
IDO 587	115.9	129.5	136.8	60.4	100	6/2	41	0	8.7
Bruehl *	115.5	151.8	136.1	58.3	99	6/9	40	3	9.2
IDO 655	---	130.0	135.3	61.3	100	6/6	43	0	9.2
Skiles	---	141.6	135.2	61.3	99	6/4	37	0	9.4
ORCF-101	110.8	141.2	133.2	60.5	98	6/5	36	0	9.6
Goetze	---	---	133.1	60.1	99	5/30	35	0	9.0
WB 456	---	---	132.1	63.3	98	5/30	34	0	9.1
Stephens	113.5	136.8	131.8	61.2	100	6/3	39	0	8.8
Xerpha	---	146.0	131.6	60.2	99	6/7	39	0	8.4
UICF Brundage	117.4	133.2	131.3	59.0	99	6/5	36	0	9.6
Clearfirst	104.0	122.4	128.0	60.9	98	6/4	37	0	9.5
Chukar*	101.4	131.8	126.8	58.3	98	6/10	42	0	9.7
Average	115.4	138.1	138.9	60.8	99	6/4	39	1	8.9
LSD (α=.05)	15.7	19.9	8.0	0.6	1	1.3	2.6	6.2	
CV %	9.7	10.3	11.9	0.7	1	0.6	4.8	736.0	
Pr > F	0.0223	0.1556	0.0034	<.0001	0.0957	<.0001	<.0001	0.0590	

* = Club Wheat

Table 28. Agronomic data for winter wheat at Rupert, irrigated, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand%	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Soft White Winter Wheat									
ID-D-05	---	---	138.3	59.7	100	6/4	36	0	10.8
Brundage	130.6	89.7	133.0	60.7	100	6/3	37	0	10.1
WB 456	---	---	132.6	60.3	99	5/31	34	19	11.6
Lambert	117.5	87.5	132.1	57.7	100	6/5	41	45	10.9
Salute	---	86.3	131.4	57.2	99	6/8	40	40	10.7
ORCF-102	119.1	84.4	130.6	59.7	100	6/8	41	1	9.5
Legion	---	---	130.1	56.3	100	6/7	39	48	10.7
Goetze	---	---	127.2	55.9	99	6/2	33	1	11.0
Bruneau	122.6	77.7	126.5	58.0	99	6/7	37	43	10.7
Tubbs 06	115.6	87.8	126.0	56.3	99	6/7	39	24	11.2
Bitterroot	---	77.0	125.2	58.1	99	6/9	39	21	10.4
Brundage 96	123.4	92.5	124.0	58.4	99	6/7	35	0	11.0
UICF Lambert	129.0	87.9	123.5	57.1	100	6/4	38	43	11.0
Coda*	108.6	87.6	123.4	59.8	100	6/10	40	56	11.8
Madsen	120.3	81.6	122.7	57.3	98	6/10	38	21	11.9
Clearfirst	110.6	92.4	122.4	58.4	77	6/8	37	23	11.0
Xerpha	---	84.3	122.1	57.3	100	6/10	38	25	11.1
Bruehl *	110.6	72.1	121.6	54.6	100	6/11	38	25	11.6
ORCF-101	109.0	84.1	121.5	57.3	99	6/6	36	0	11.7
Simon	122.8	85.4	120.6	57.6	99	6/7	38	25	12.0
Westbred 470	---	---	119.5	62.1	100	6/1	36	36	11.8
Skiles	---	95.2	115.9	57.3	99	6/8	36	20	11.4
UICF Brundage	117.4	85.6	115.3	56.5	98	6/8	35	13	11.3
IDO 655	---	84.3	115.0	60.4	99	6/8	41	44	10.1
Chukar *	109.7	76.7	114.0	56.5	100	6/10	37	43	11.2
00-475-2DH	---	88.8	113.3	54.7	100	6/8	37	60	11.8
Stephens	118.9	81.4	112.2	58.3	100	6/7	38	41	11.5
WestBred 528	128.5	87.0	111.8	59.3	100	6/2	35	44	10.9
Daws	118.3	100.5	110.8	57.0	99	6/9	39	48	10.8
IDO 587	110.4	84.9	110.7	55.5	98	6/6	38	68	12.0
Average	117.3	85.7	122.4	57.8	99	6/7	37	29	11.1
LSD (α=.05)	14.5	13.9	20.3	2.9	11.5	2.2	2.8	42.4	
CV %	8.8	11.4	11.8	3.6	8.3	0.97	5.3	103.6	
Pr > F	0.0011	0.0050	0.3813	<.0001	0.4412	<.0001	<.0001	0.0358	

* = Club Wheat

Table 29. Agronomic data for winter wheat at Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**
Soft White Winter Wheat									
IDO 587	134.0	100.4	134.6	58.9	93	6/6	38	0	12.0
WestBred 528	148.9	93.8	134.1	60.3	96	6/5	35	0	11.6
Coda *	142.3	114.5	133.6	61.0	98	6/11	38	0	11.9
Bitterroot	---	106.7	131.3	60.7	91	6/7	37	0	11.8
ORCF-101	127.2	115.0	130.4	59.4	93	6/7	37	0	11.3
Simon	138.4	109.7	129.8	59.8	94	6/7	37	0	11.6
Tubbs 06	153.8	103.3	129.7	59.2	96	6/8	37	0	11.2
Brundage 96	138.2	113.7	128.0	58.2	95	6/6	34	0	11.0
Xerpha	---	126.1	128.0	58.6	96	6/10	35	0	12.1
UICF Brundage	140.9	113.6	127.2	58.2	95	6/5	33	0	11.7
Lambert	130.9	105.3	126.2	58.4	94	6/6	37	0	11.5
Madsen	136.2	99.7	126.1	58.2	90	6/9	36	0	12.6
Bruneau	160.8	121.5	125.6	59.3	93	6/7	35	0	10.9
Stephens	134.4	104.5	123.5	59.3	95	6/7	35	0	12.1
ORCF-102	154.3	107.5	122.0	59.1	89	6/6	35	0	11.6
ID-D-05	---	---	121.5	61.3	95	6/4	32	0	12.6
Westbred 470	---	---	120.3	62.2	94	6/3	35	0	12.9
Daws	131.0	100.4	119.7	59.5	95	6/8	36	0	12.3
UICF Lambert	139.2	98.0	118.9	59.7	91	6/5	36	0	11.9
Legion	---	---	117.9	58.9	98	6/6	36	0	11.1
Bruehl *	144.1	101.4	117.3	56.2	93	6/10	36	0	12.9
00-475-2DH	---	121.4	116.3	60.4	91	6/7	34	0	12.2
Clearfirst	126.0	101.9	115.7	59.4	94	6/9	36	0	11.9
Goetze	---	---	114.3	59.0	96	5/31	29	0	11.7
Chukar *	130.0	111.6	113.4	57.3	99	5/9	27	30	13.1
Skiles	---	97.7	113.0	58.4	93	6/7	31	0	12.3
Salute	---	103.7	111.9	57.1	96	6/6	36	0	12.7
IDO 655	---	100.0	111.3	59.1	92	6/8	38	0	12.1
Brundage	147.7	96.6	110.4	60.1	93	6/2	31	0	10.7
WB 456	---	---	106.8	61.0	93	6/2	33	0	13.8
Average	139.1	106.7	122.0	59.3	94	6/5	35	1	12.0
LSD (α=.05)	16.9	14.1	18.2	1.5	6.2	16.3	5.3	15.6	
CV %	8.4	9.4	10.5	1.8	4.6	7.3	10.9	1092.0	
Pr > F	0.0138	0.0002	0.0995	<.0001	0.2592	0.5249	0.0092	0.4950	

* = Club Wheat

Table 30. Agronomic data for winter wheat at Ririe, dryland, 2009.

Variety	Yield (bu/A) 2007	2008	2009	Test Wt. (lb/bu)	Spring Stand %	Heading Date	Height (in.)	Lodging (%)	Protein (%)
Soft White Winter Wheat									
Coda *	20.1	15.6	52.9	61.3	91	6/25	27	0	11.0
Bruehl *	18.5	20.0	52.2	59.0	83	6/26	29	0	11.2
Bitterroot	---	16.4	51.3	60.5	87	6/25	29	0	11.3
00-475-2DH	---	22.2	50.5	61.5	87	6/26	27	0	11.4
IDO 587	20.7	18.7	49.3	59.0	85	6/24	26	0	10.7
ID-D-05	---	---	48.4	62.0	90	6/23	26	0	11.8
Xerpha	---	22.0	48.0	60.7	90	6/25	26	0	9.9
Madsen	21.1	19.8	47.7	59.6	86	6/25	26	0	11.3
Legion	---	---	47.4	59.0	89	6/23	27	0	9.9
Simon	19.7	19.0	47.4	59.7	85	6/24	26	0	10.7
ORCF-102	23.1	20.4	47.4	59.4	86	6/24	27	0	10.5
Daws	23.3	17.6	47.0	60.3	88	6/23	27	0	10.8
Salute	---	19.7	46.6	58.0	89	6/22	27	0	10.8
Clearfirst	15.0	16.5	46.4	60.1	82	6/25	26	0	11.4
Goetze	---	---	45.7	58.1	71	6/22	24	0	10.8
Tubbs 06	24.3	20.0	45.6	59.1	88	6/24	27	0	10.9
UICF Brundage	20.1	16.8	45.5	57.9	89	6/23	25	0	10.5
Bruneau	21.7	23.1	45.2	59.9	78	6/26	24	0	10.2
Stephens	17.9	16.4	44.5	60.5	85	6/23	25	0	10.3
WestBred 528	21.1	20.3	44.1	61.2	88	6/21	26	0	11.0
IDO 655	---	19.6	43.6	61.4	87	6/25	28	0	11.0
ORCF-101	19.5	18.7	43.2	59.8	85	6/24	25	0	10.9
Chukar *	17.1	17.6	42.8	59.9	89	6/27	22	0	10.5
UICF Lambert	20.6	19.5	42.5	59.7	76	6/23	27	0	10.3
Westbred 470	---	---	42.1	62.6	88	6/21	25	0	11.5
Brundage 96	22.2	17.3	40.8	58.7	84	6/25	25	0	10.1
Skiles	---	19.6	38.1	60.4	88	6/22	24	0	10.9
WB 456	---	---	38.0	61.8	92	6/19	24	0	11.3
Lambert	17.9	21.2	34.6	60.4	87	6/21	25	0	9.7
Brundage	22.7	18.9	32.5	61.5	87	6/20	22	0	9.3
Average	20.3	19.1	45.0	60.1	86	6/23	26	0	10.7
LSD (α=.05)	4.5	5.3	8.8	1.4	10.2	1.4	1.7	0	
CV %	15.6	20.0	13.9	1.6	8.4	0.6	4.8	0	
Pr > F	0.0001	0.1789	0.0014	<.0001	0.0735	<.0001	<.0001	0	

* = Club Wheat

Table 31. Agronomic data for winter barley at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
Sunstar Pride	156.1	134.0	178.2	48.6	99	6/2	37	26	8.2	54.7	23.0	23.1
93Ab631	131.7	123.5	176.7	46.4	97	5/26	35	38	8.6	69.0	19.4	12.9
93Ab669	156.5	123.2	170.5	49.4	92	5/24	37	25	10.5	76.4	15.8	8.5
91Ab23	129.9	123.2	168.4	48.7	96	5/27	31	23	9.5	75.8	16.0	8.9
02Ab2739	127.3	114.7	166.6	47.4	100	5/28	33	14	9.9	68.3	18.8	13.4
Eight-Twelve	128.9	105.5	166.6	48.7	99	5/26	34	44	10.3	84.2	10.8	5.8
02Ab2701	109.0	120.5	166.3	48.6	99	5/29	37	21	10.1	78.4	14.3	7.7
91Ab36	174.2	126.8	162.5	47.3	95	5/29	35	23	9.4	75.4	16.0	9.5
OR74	---	---	162.4	49.7	100	5/28	34	23	11.1	87.7	9.2	3.9
02Ab2732	145.6	136.1	160.5	44.6	94	5/30	40	39	9.9	57.7	22.4	20.5
92Ab1308	129.9	132.3	160.3	48.2	99	5/24	37	36	11.1	73.8	17.0	10.0
Sprinter	146.1	118.8	158.6	49.8	95	5/30	41	30	10.7	75.7	18.3	6.5
02Ab339	104.9	113.8	157.9	50.0	97	5/30	37	20	10.0	72.9	20.1	7.5
94Ab1777	131.3	141.9	157.7	48.7	97	5/25	37	23	10.6	66.6	22.9	11.6
Charles	64.7	95.7	156.3	49.0	99	5/28	35	64	10.4	88.0	7.1	5.6
97BX42-116-17A	107.8	123.2	154.8	47.7	99	5/30	38	44	10.7	58.3	25.2	16.8
OR75	---	---	154.8	49.9	100	5/27	37	13	9.4	90.0	7.4	3.1
92Ab561	141.3	135.3	154.6	50.6	94	5/27	36	18	9.9	81.3	13.9	5.6
97Ab11	143.4	105.9	153.7	50.2	95	5/31	35	45	10.2	77.3	14.6	8.8
Endeavor	72.3	100.8	148.6	51.9	99	5/29	35	43	12.2	87.6	8.6	4.8
OR78	---	122.7	148.0	49.8	97	5/29	35	4	10.3	87.3	9.7	3.3
OR77	---	120.3	145.4	50.1	99	5/28	38	20	10.7	89.1	8.1	3.8
OR72	---	79.0	140.3	51.2	99	5/26	35	20	11.1	90.1	6.7	4.1
Strider	145.6	111.7	137.5	48.3	99	5/26	34	34	10.8	83.4	11.8	5.3
Schuyler	138.8	126.0	136.3	49.2	90	5/29	37	13	9.9	72.5	16.2	11.6
OR73	---	---	136.2	49.4	95	5/27	34	24	9.5	88.1	8.8	3.6
88AB536B	119.1	107.7	134.6	48.8	90	5/28	36	0	10.0	81.8	13.1	5.4
Maja	---	---	132.7	51.0	92	5/24	34	4	9.7	88.9	8.9	3.1
96AB69	156.3	137.4	132.0	48.2	94	5/26	33	23	10.0	64.1	23.0	13.9
OR76	---	---	120.9	48.6	98	5/24	34	0	11.7	93.2	5.5	2.4
Average	130.6	119.2	153.3	49.0	96	5/27	36	25	10.2	77.9	14.4	8.4
LSD (α=.05)	28.9	19.3	20.7	1.5	7.1	1.8	5.0	39.2				
CV %	15.6	11.6	12.0	2.2	5.2	0.8	9.9	112.0				
Pr > F	<.0001	<.0001	0.0008	<.0001	0.1729	<.0001	0.0922	0.3478				

Table 32. Agronomic data for winter barley at Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	2007	2008	2009	(lb/bu)	Stand %	Date	(in.)	(%)	(%)	(>6/64)	(>5.5/64)	% Thin
Sunstar Pride	16.3	123.8	190.0	49.4	88	5/8	25	82	8.9	71.7	19.2	9.5
91Ab36	119.2	119.0	182.0	48.4	85	6/4	33	0	10.5	86.3	10.6	3.7
93Ab669	128.5	150.5	175.7	50.7	84	6/1	37	0	11.8	84.9	11.6	4.2
Strider	15.7	135.0	173.0	50.3	90	5/27	30	0	12.0	89.1	8.5	3.0
02Ab2701	99.8	124.5	172.2	49.0	84	6/3	39	0	11.8	82.2	11.6	6.7
97Ab11	86.9	71.2	170.8	51.0	84	6/9	35	0	10.1	82.0	12.8	5.9
92Ab561	35.3	71.3	170.3	50.7	86	6/1	34	0	11.5	83.3	12.1	5.1
91Ab23	17.8	92.3	169.8	49.2	86	6/3	31	0	10.0	82.2	12.1	5.9
94Ab1777	26.2	101.3	161.0	48.1	79	6/3	41	9	12.7	51.9	24.0	24.5
97BX42-116-17A	111.4	150.0	161.0	49.9	78	6/4	38	25	11.8	72.4	18.8	9.6
02Ab2732	89.9	72.2	157.6	47.4	86	6/5	39	0	9.7	72.9	16.9	10.5
Eight-Twelve	70.4	106.3	157.6	50.2	83	5/30	35	13	10.0	86.4	9.8	4.8
OR73	---	---	156.1	51.4	90	5/31	34	0	11.3	95.6	4.1	1.2
92Ab1308	12.8	87.2	155.2	48.5	83	6/2	34	3	12.4	70.6	18.1	11.4
Sprinter	85.6	118.8	155.2	50.4	79	6/6	37	0	11.8	72.4	20.0	8.4
02Ab2739	88.0	88.3	154.2	47.9	81	6/5	34	5	10.7	80.0	13.3	7.2
Schuyler	95.2	142.1	153.7	50.8	79	6/4	37	13	12.8	68.1	20.8	11.5
96AB69	42.6	122.4	150.8	50.0	71	6/1	30	0	10.8	74.2	18.4	7.9
93Ab631	51.6	75.8	146.9	45.9	81	5/30	32	15	9.7	58.6	23.8	18.0
OR77	---	120.8	146.9	51.3	89	5/31	36	0	11.9	95.1	3.8	1.5
OR74	---	---	145.4	51.4	90	5/30	36	0	11.9	96.3	3.1	1.6
Maja	---	---	143.9	52.1	68	5/29	34	0	11.3	92.0	6.6	2.3
Endeavor	11.4	36.5	143.4	52.3	84	5/30	32	3	12.0	88.6	7.1	4.9
OR78	---	112.2	140.5	51.0	91	5/30	34	0	12.4	95.8	3.1	1.8
88Ab536B	27.5	72.2	139.1	49.7	85	5/29	37	0	12.7	80.0	11.9	4.4
OR75	---	---	137.9	51.6	93	5/31	34	0	11.8	95.6	3.8	1.4
Charles	4.5	10.6	134.7	49.8	88	5/31	25	0	12.3	90.5	5.6	4.8
OR72	---	52.2	121.5	52.4	80	5/29	37	0	11.6	91.1	6.8	2.8
OR76	---	---	121.5	51.5	89	5/28	32	0	14.0	95.5	3.7	1.6
02Ab339	5.5	19.2	105.9	52.4	78	6/5	35	0	12.1	94.3	4.0	2.1
Average	56.2	95.0	153.1	50.1	84	5/31	34	6	11.5	82.7	11.5	6.3
LSD (α=.05)	58.5	33.5	20.6	1.0	12.5	16.6	6.0	44.7				
CV %	74.1	25.5	9.4	1.4	10.6	7.7	12.5	566.5				
Pr > F	<.0001	<.0001	<.0001	<.0001	0.0387	0.6951	<.0001	0.5074				

Table 33. Agronomic data for winter barley at Ririe, dryland, 2009.

Variety	Yield 2009	Test Wt. (lb/bu)	Spring Stand%	Heading Date	Height (in)	Lodging (%)	Protein (%)	Plump (>6/64)	Plump (>5.5/64)	% Thin
97BX42-116-17A	57.5	53.8	50	178	22	0	13.3	69.8	22.8	7.7
OR78	53.9	54.1	75	170	23	0	12.4	88.8	8.0	3.8
94Ab1777	53.5	53.6	85	173	26	0	11.7	62.8	25.2	12.3
97Ab11	52.6	53.6	70	177	23	0	10.2	83.1	14.0	5.0
02Ab2701	48.8	54.4	75	173	23	0	11.6	87.1	9.3	4.5
93Ab669	47.9	53	70	172	24	0	12.6	73.5	15.3	11.2
92Ab1308	47.0	54.7	40	171	23	0	11.7	86.6	10.8	3.6
92Ab561	45.7	54.1	75	170	21	0	11	75.1	18.4	6.6
Eight-Twelve	44.1	55.3	65	172	24	0	11.6	80.2	13.4	6.6
88Ab536B	42.5	53	60	172	24	0	13	82.7	13.3	4.8
Strider	41.9	52.4	30	173	27	0	13.9	84.3	11.3	4.7
OR73	41.2	55.3	60	172	22	0	12.8	86.4	10.5	3.9
02Ab2739	40.5	55.8	85	173	24	0	11.8	87.2	8.3	5.2
91Ab36	39.7	53	60	177	21	0	9.5	75.5	16.9	8.2
Sprinter	39.2	55	75	176	23	0	10	66.3	23.0	10.9
Schuyler	36.1	55.3	85	176	21	0	8.9	66.9	23.6	9.9
Maja	35.6	57.2	75	171	24	0	12.5	87.5	7.8	4.9
96AB69	34.3	53.6	60	173	20	0	10.4	64.1	22.4	13.9
OR77	34.3	55.5	70	170	20	0	11.1	85.3	8.5	6.7
Charles	32.9	54.7	30	176	17	0	11.6	87.6	6.6	5.8
91Ab23	32.1	54.1	20	177	22	0	11.6	79	14.4	7.2
OR72	31.4	55.5	55	170	24	0	12.9	82.6	10.4	7.2
Sunstar Pride	30.9	54.7	85	179	18	0	9.6	80.1	12.4	7.6
02Ab339	30.3	56.4	25	180	21	0	10.9	77.5	14.0	9.5
02Ab2732	28.9	56.4	10	179	22	0	13.1	89.1	6.7	5.2
93Ab631	27.8	56.1	50	173	19	0	10	85.3	9.8	5.2
OR75	27.4	55	75	173	20	0	11.3	89.3	7.5	3.8
Endeavor (95Ab229	24.9	52.2	30	178	26	0	13.2	93.6	3.9	2.9
OR74	22.3	54.4	40	178	21	0	11.2	87.3	8.0	5.2
OR76	20.3	55.5	70	171	19	0	12.1	86.6	8.5	5.3
Average	38.2	54.6	58.5	174.1	22.1	0.0	11.6	81.0	12.8	6.6

* Only one replication was planted in Ririe.

Table 34. Agronomic data for spring wheat at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in)**	**(%)**	**(%)**
Hard Spring Wheat									
Idaho 377s (W)	96.8	137.3	126.3	63.0	99	6/19	35	0	11.4
Lolo (W)	102.8	137.8	125.6	63.2	99	6/19	39	0	11.6
Jerome	104.2	158.0	124.5	62.5	100	6/15	36	0	11.1
Otis (W)	98.6	136.5	124.1	63.4	100	6/21	42	0	11.0
Iona	109.3	139.4	115.4	63.3	100	6/19	42	0	12.1
Bullseye	---	137.5	114.7	64.5	100	6/20	31	0	11.0
IDO 667	---	142.3	114.3	64.2	99	6/19	35	0	11.9
Lochsa (W)	108.2	134.5	112.5	61.7	99	6/18	36	0	12.3
BZ901-717	---	---	110.7	62.9	99	6/18	38	0	12.1
OR4990114	---	126.7	109.6	62.1	100	6/14	35	0	11.5
Klasic (W)	96.4	125.0	106.0	62.5	100	6/14	27	0	12.5
WestBred 936	98.6	122.3	105.6	61.7	100	6/16	34	0	12.1
Pristine (W)	100.1	128.9	105.3	62.9	100	6/14	37	0	12.5
Kelse	---	113.2	104.9	62.5	100	6/20	37	0	12.3
Choteau	103.5	128.5	104.5	62.7	100	6/21	38	0	12.7
Jefferson	103.7	138.4	104.2	62.6	99	6/19	36	0	11.2
WB-Paloma (W)	---	---	103.8	63.0	100	6/15	31	0	12.4
Summit	96.9	136.0	103.8	61.0	99	6/20	28	0	11.5
RSI 03W10348 (W)	---	---	102.4	61.8	98	6/15	31	0	12.8
BZ904-336 WP (W)	---	---	102.0	62.5	100	6/16	33	0	11.9
Cabernet	97.5	131.8	101.6	61.8	98	6/18	28	0	11.8
Buck Pronto	101.6	126.7	101.3	62.3	100	6/14	36	0	12.5
RSI 40292R	---	---	100.2	60.4	97	6/21	34	0	12.1
Blanca Grande (W)	102.2	137.7	99.5	62.5	98	6/14	30	0	13.0
RSI50603	---	129.2	99.5	62.4	100	6/17	31	0	12.2
UI Winchester	---	121.0	98.7	62.2	99	6/18	33	0	11.9
Snow Crest (W)	94.1	130.5	97.6	62.0	100	6/13	33	0	12.9
NPB HR 70	---	---	94.7	61.9	98	6/16	34	0	11.6
Tara 2002	95.3	125.2	89.3	62.3	99	6/17	38	0	10.9
Durum Wheat									
Matt	87.3	126.7	108.5	62.5	97	6/16	33	0	9.6
AP1526	86.2	136.1	107.8	63.1	99	6/21	41	0	9.6
Kronos	100.7	146.6	106.4	61.3	98	6/14	31	0	9.7
Alzada	99.7	126.2	105.6	62.2	100	6/16	35	0	9.8
Utopia	99.8	129.2	105.3	61.3	100	6/17	31	0	9.5
Average	96.9	132.5	107.0	62.4	99	6/17	34	0	11.6
LSD (α=.05)	11.3	16.8	10.0	0.9	1.6	1.4	2.4	0	
CV %	8.3	9.0	6.7	1.0	1.2	0.6	5.0	.	
Pr > F	<.0001	0.0044	<.0001	<.0001	0.0013	<.0001	<.0001	.	

(W) = White

Table 35. Agronomic data for spring wheat, Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in)**	**(%)**	**(%)**
Hard Spring Wheat									
Otis (W)	122.0	107.7	140.2	61.3	100	6/24	44	0	12.4
Idaho 377s (W)	104.5	117.2	136.6	60.3	100	6/21	40	0	13.0
Lolo (W)	122.3	124.9	132.9	61.2	100	6/21	39	0	12.6
Jefferson	123.2	93.6	128.4	61.6	100	6/22	38	0	11.8
Lochsa (W)	120.8	92.7	128.4	59.7	100	6/22	39	0	12.8
Bullseye	---	113.2	128.1	62.0	100	6/22	34	0	12.7
Jerome	122.6	107.0	126.9	60.3	100	6/19	36	0	12.0
RSI50603	---	83.7	126.4	60.5	100	6/22	36	0	12.6
OR4990114	---	85.5	124.4	59.1	100	6/17	36	0	12.3
Choteau	117.9	101.5	123.6	60.0	100	6/23	38	0	13.1
IDO 667	---	93.2	123.6	61.2	100	6/21	38	0	12.9
BZ901-717	---	---	123.5	61.6	100	6/20	38	0	12.7
UI Winchester	---	101.3	120.8	60.7	100	6/21	36	0	12.2
Cabernet	122.8	102.0	120.7	60.2	100	6/20	33	0	12.3
RSI 40292R	---	---	120.5	58.7	100	6/23	37	0	12.4
Buck Pronto	114.2	102.6	120.1	60.4	100	6/18	38	0	13.4
WB-Paloma (W)	---	---	119.1	60.9	100	6/18	31	0	13.4
Iona	106.6	109.6	118.9	60.8	100	6/21	41	0	13.7
Klasic (W)	119.0	93.9	116.0	60.7	100	6/18	30	0	12.0
WestBred 936	119.8	99.3	115.3	59.1	100	6/19	35	0	12.9
Blanca Grande (W)	134.8	79.6	114.9	60.9	100	6/17	32	0	12.5
Kelse	---	106.4	114.8	59.7	100	6/23	38	0	13.7
Pristine (W)	125.5	102.0	113.6	61.7	100	6/17	38	0	13.9
NPB HR 70	---	---	112.2	59.2	100	6/18	37	0	12.6
Summit	114.3	95.3	112.2	57.8	100	6/24	30	0	12.0
Snow Crest (W)	117.2	75.1	111.7	60.6	100	6/16	32	0	13.5
BZ904-336 WP (W)	---	---	111.4	59.6	100	6/18	34	0	13.3
Tara 2002	117.5	74.9	110.9	60.3	100	6/18	39	0	12.7
RSI 03W10348 (W)	---	---	110.2	57.9	100	6/20	35	0	12.9
Durum Wheat									
AP1526	125.2	93.6	125.2	60.4	100	6/24	40	0	10.7
Alzada	119.8	94.1	119.8	60.8	100	6/21	36	0	10.5
Matt	108.4	99.3	108.4	59.9	100	6/20	34	0	10.5
Utopia	108.2	94.4	108.2	57.2	100	6/22	33	0	10.9
Kronos	103.9	86.7	103.9	59.3	100	6/16	31	0	11.3
Average	119.4	97.5	119.8	60.1	100	6/20	36	0	12.5
LSD (α=.05)	10.0	26.4	10.0	1.0	0	2.2	2.2	0	
CV %	6.0	19.3	6.0	1.2	0	0.9	4.3	0	
Pr > F	<.0001	0.0204	<.0001	<.0001	0.0	<.0001	<.0001	0	

(W) = White

Table 36. Agronomic data for spring wheat, Idaho Falls, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in)**	**(%)**	**(%)**
Hard Spring Wheat									
Lolo (W)	105.7	139.9	150.8	60.4	100	6/25	37	0	11.1
Otis (W)	102.6	138.8	141.3	61.8	100	6/27	39	0	10.9
Idaho 377s (W)	101.4	141.1	139.3	63.2	100	6/27	37	0	10.9
Tara 2002	103.3	143.9	131.6	60.7	100	6/25	39	0	11.2
Jefferson	102.8	126.0	131.2	62.6	100	6/25	34	0	10.5
Lochsa (W)	108.0	117.3	130.4	61.6	100	6/26	37	0	12.0
BZ904-336 WP (W)	---	---	128.1	63.2	100	6/25	33	0	11.8
IDO 667	---	141.3	126.4	64.3	100	6/25	33	0	11.0
Iona	97.7	133.7	126.3	63.3	100	6/26	39	0	11.4
WestBred 936	99.6	132.5	126.0	61.7	100	6/24	31	0	11.7
Jerome	99.9	125.4	125.3	62.1	100	6/23	34	0	10.8
Pristine (W)	102.3	132.6	123.3	62.7	100	6/22	36	0	12.5
UI Winchester	---	126.9	122.4	62.5	100	6/26	32	0	11.4
Buck Pronto	102.6	126.5	122.3	63.1	100	6/23	34	0	11.1
BZ901-717	---	---	122.2	63.3	100	6/25	36	0	11.3
OR4990114	---	122.3	121.4	62.0	100	6/24	34	0	11.0
Bullseye	---	141.3	120.9	64.6	100	6/27	32	0	11.1
RSI 40292R	---	---	120.3	62.5	100	6/27	34	0	11.2
NPB HR 70	---	---	118.4	61.6	100	6/25	34	0	11.6
WB-Paloma (W)	---	---	118.0	64.2	100	6/23	31	0	11.3
Blanca Grande (W)	103.8	128.0	117.2	64.6	100	6/22	30	0	11.6
Choteau	103.5	128.2	117.1	62.9	100	6/28	36	0	12.2
Summit	99.2	140.0	115.7	62.6	100	6/27	30	0	10.9
Kelse	---	136.6	115.4	62.5	100	6/27	35	0	12.0
Cabernet	---	123.0	114.2	64.5	100	6/26	29	0	10.6
RSI 03W10348 (W)	---	---	112.3	63.2	100	6/23	30	0	11.4
RSI50603	---	138.8	112.3	63.4	100	6/25	30	0	11.1
Snow Crest (W)	105.7	144.7	111.2	63.9	100	6/21	30	0	12.0
Klasic (W)	102.3	128.5	102.0	64.5	100	6/22	28	0	10.6
Durum Wheat									
Alzada	105.2	131.6	114.4	63.2	100	6/21	32	0	9.5
AP1526	109.8	115.5	111.3	62.8	100	6/26	37	0	9.9
Kronos	105.7	127.0	110.5	62.2	100	6/21	29	0	9.9
Utopia	95.2	126.0	109.1	62.3	100	6/26	29	0	9.3
Matt	95.9	140.9	103.4	62.8	100	6/23	32	0	9.3
Average	100.9	132.1	120.9	62.8	100	6/25	33	0	11.1
LSD (α=.05)	10.9	17.7	10.7	0.8	0	1.3	2.0	0	
CV %	7.9	9.5	6.2	0.9	0	0.5	4.3	.	
Pr > F	0.0777	0.0604	<.0001	<.0001	.	<.0001	<.0001	.	

(W) = White

Table 37. Agronomic data for spring wheat at Ashton, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**
Hard Spring Wheat									
Idaho 377s (W)	91.1	119.9	111.8	65.8	100	7/20	36	0	9.2
Otis (W)	84.9	105.9	102.0	64.7	100	7/21	39	0	9.4
Lolo (W)	95.5	106.1	98.7	64.9	100	7/21	37	0	9.4
IDO 667	---	91.6	95.5	66.3	100	7/17	34	0	8.6
BZ904-336 WP (W)	---	---	94.4	65.0	100	7/18	33	0	9.7
RSI 03W10348 (W)	---	---	94.4	65.0	99	7/17	32	0	9.9
Bullseye	---	90.2	92.9	66.1	100	7/19	33	0	8.8
Summit	73.3	89.3	92.6	63.3	100	7/21	29	0	9.7
Jerome	73.9	84.8	92.2	64.2	100	7/18	34	0	10.0
RSI50603	---	87.1	92.2	64.4	100	7/21	33	0	11.2
Jefferson	81.8	84.9	91.5	64.4	100	7/19	36	0	9.8
Cabernet	---	97.1	90.4	64.9	100	7/20	30	0	9.9
Iona	72.2	94.3	89.7	65.0	100	7/19	39	0	10.0
UI Winchester	---	89.2	89.7	64.5	100	7/17	33	0	10.0
Lochsa (W)	77.4	91.7	89.3	63.1	100	7/18	35	0	10.7
Tara 2002	65.1	73.2	88.9	63.9	100	7/16	38	0	9.5
WB-Paloma (W)	---	---	84.9	65.5	100	7/17	32	0	9.7
WestBred 936	69.9	77.9	84.2	63.6	100	7/17	33	0	9.9
NPB HR 70	---	---	83.9	63.3	100	7/17	33	0	9.6
OR4990114	---	79.8	83.9	63.9	100	7/17	33	0	9.3
RSI 40292R	---	---	83.1	63.4	100	7/22	33	0	8.6
Choteau	81.8	88.3	80.9	64.1	100	7/20	34	0	10.9
Pristine (W)	62.7	80.0	79.5	64.9	100	7/16	36	0	10.2
Buck Pronto	65.5	89.5	77.7	64.2	100	7/16	34	0	10.0
Kelse	---	91.9	77.0	63.8	100	7/18	35	0	10.6
Klasic (W)	49.2	58.5	76.2	64.6	100	7/16	29	0	9.6
BZ901-717	---	---	74.8	64.5	100	7/17	35	0	9.9
Snow Crest (W)	54.5	76.6	74.1	64.6	100	7/16	29	0	10.4
Blanca Grande (W)	62.8	71.1	73.7	65.2	100	7/15	29	0	11.1
Durum Wheat									
Utopia	58.7	75.1	97.3	63.5	100	7/19	33	0	7.0
AP1526	72.7	86.6	86.4	65.1	100	7/21	41	0	7.7
Alzada	69.1	78.3	84.6	64.6	100	7/19	36	0	7.1
Kronos	65.2	80.6	82.4	63.9	100	7/17	32	0	7.8
Matt	52.2	64.8	77.7	64.1	99	7/19	33	0	7.0
Average	71.5	85.9	87.3	64.5	100	7/18	34	0	9.5
LSD (α=.05)	13.8	18.0	11.5	0.5	0.8	1.0	1.8	0	
CV %	13.7	12.8	9.5	0.6	0.6	0.3	3.8	.	
Pr > F	<.0001	<.0001	<.0001	<.0001	0.3250	<.0001	<.0001	.	

(W) = White

Table 38. Agronomic data for spring wheat at Soda Springs, dryland, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**
Hard Spring Wheat									
Otis (W)	10.3	34.7	92.7	61.9	95	7/21	32	0	10.1
Lolo (W)	7.4	39.9	88.3	63.4	93	7/20	29	0	9.6
IDO 667	---	29.7	85.8	64.8	98	7/18	28	0	9.1
WB-Paloma (W)	---	---	84.0	64.1	95	7/17	26	0	9.0
OR4990114	---	22.3	84.0	62.8	94	7/16	28	0	9.3
Idaho 377s (W)	7.7	35.8	82.9	64.3	95	7/19	29	0	9.4
Lochsa (W)	7.0	28.9	81.9	61.8	95	7/19	30	0	9.5
Jerome	13.2	28.5	81.9	63.0	98	7/17	29	0	9.7
BZ904-336 WP (W)	---	---	80.6	62.8	94	7/17	27	0	9.4
Jefferson	14.4	31.6	80.2	62.9	93	7/21	29	0	10.0
Tara 2002	13.9	26.2	77.2	62.3	91	7/16	31	0	10.0
Bullseye	---	27.0	77.1	64.4	95	7/20	26	0	9.5
Iona	7.8	23.9	76.6	63.3	89	7/20	28	0	10.0
UI Winchester	10.6	31.4	76.0	63.2	95	7/18	27	0	9.3
Buck Pronto	12.5	25.4	75.8	63.0	94	7/16	27	0	10.6
WestBred 936	14.5	26.6	73.5	62.4	91	7/18	25	0	10.0
Cabernet	---	35.1	73.3	63.3	94	7/20	23	0	9.3
IDO 665	---	23.0	73.3	62.1	94	7/17	28	0	10.4
RSI 03W10348 (W)	---	---	72.2	62.9	98	7/18	24	0	9.5
Pristine (W)	10.2	29.0	71.2	64.2	95	7/16	28	0	9.4
RSI50603	---	25.3	71.1	63.0	95	7/20	27	0	10.2
Kelse	---	---	70.1	63.4	95	7/19	30	0	10.3
RSI 40292R	---	---	69.7	62.1	94	7/22	26	0	9.8
Blanca Grande (W)	15.6	26.2	69.3	64.2	91	7/16	24	0	10.5
Choteau	13.3	28.8	69.0	63.1	86	7/21	26	0	11.3
NPB HR 70	---	---	68.9	62.4	88	7/17	28	0	10.3
Summit	9.0	22.3	68.6	61.8	93	7/20	22	0	10.0
Snow Crest (W)	12.7	31.0	67.2	62.4	96	7/16	24	0	10.3
BZ901-717	---	---	63.2	62.8	95	7/16	29	0	10.1
Klasic (W)	13.4	23.3	57.4	63.5	90	7/17	20	0	10.3
Durum Wheat									
Utopia	8.7	17.1	64.3	62.3	85	7/21	24	0	7.8
Kronos	6.9	21.4	63.7	63.2	78	7/18	23	0	7.9
AP1526	10.1	20.3	60.5	62.7	79	7/24	27	0	8.3
Matt	7.6	18.9	60.2	62.8	83	7/21	23	0	8.0
Average	10.2	27.2	73.9	63.0	92	7/18	27	0	9.6
LSD (α=.05)	6.9	6.7	10.6	0.7	7.5	1.5	2.0	0	
CV %	49.4	17.6	10.2	0.8	5.8	0.5	5.3	.	
Pr > F	0.0261	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	.	

(W) = White

Table 39. Agronomic data for spring wheat at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in)**	**(%)**	**(%)**
Soft White Spring Wheat									
IDO671	---	144.8	134.8	62.0	99	6/18	36	0	8.6
IDO599	---	---	130.9	61.5	99	6/17	36	0	9.1
IDO668	---	145.3	128.1	61.5	100	6/17	36	0	9.2
IDO669	---	149.5	126.7	62.1	99	6/20	40	0	8.8
Alturas	108.0	140.1	125.9	61.1	98	6/18	34	0	9.0
IDO644	---	145.1	125.6	60.7	100	6/15	35	0	8.8
UI Pettit	106.0	147.4	124.9	61.9	98	6/13	31	0	9.1
IDO629	---	145.0	123.5	62.5	100	6/22	38	0	9.1
BZ604-002	---	---	123.2	62.4	100	6/16	36	0	8.7
Challis	108.3	144.9	122.1	61.1	99	6/19	36	0	9.4
Skookum	96.3	141.8	121.3	60.5	99	6/23	37	0	9.2
Penawawa	107.9	152.1	121.2	62.6	99	6/20	35	0	9.3
Waxy Penawawa	106.6	149.6	119.8	61.5	100	6/20	35	0	10.0
Treasure	108.5	145.7	119.2	60.9	100	6/22	36	0	8.6
WA008039	---	---	114.9	63.0	100	6/19	38	0	8.5
Whit	102.5	148.7	114.4	62.2	100	6/17	36	0	8.8
Alpowa	109.4	140.2	113.4	62.2	98	6/21	37	0	9.0
IDO630	---	131.5	112.0	61.8	100	6/20	37	0	10.0
Nick	98.8	141.6	110.8	61.9	100	6/18	35	0	9.3
Cataldo	96.0	136.0	106.6	60.8	100	6/14	33	0	9.8
WA008090	---	---	104.1	61.0	100	6/20	38	0	9.8
Average	102.3	144.1	120.2	61.7	99	6/18	36	0	9.1
LSD (α=.05)	10.6	15.0	9.1	0.7	1.2	1.2	1.9	0.0	
CV %	7.3	7.2	5.4	0.8	0.8	0.5	3.8	.	
Pr > F	0.0147	0.5227	<.0001	<.0001	<.0001	<.0001	<.0001	.	

Table 40. Agronomic data for spring wheat, Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand%**	**Date**	**(in)**	**(%)**	**(%)**
Soft White Spring Wheat									
IDO671	---	108.0	138.4	59.7	100	6/24	39	0	10.1
Treasure	93.3	119.1	136.3	59.2	100	6/25	36	0	10.4
IDO644	---	119.6	136.2	58.9	100	6/20	37	0	10.4
WA008039	---	---	134.4	60.2	100	6/25	39	0	11.1
IDO599	---	---	131.9	59.3	100	6/20	38	0	10.8
BZ604-002	---	---	131.1	60.2	100	6/20	37	0	10.0
IDO630	---	103.4	131.0	59.1	100	6/24	37	0	11.6
Skookum	125.6	105.8	130.7	58.2	100	6/26	39	0	10.8
Alpowa	116.1	119.2	130.6	60.0	100	6/25	38	0	10.8
IDO668	---	118.4	130.2	60.3	100	6/22	37	0	10.4
Challis	120.4	118.3	127.6	59.2	100	6/25	39	0	10.8
Whit	116.2	114.8	125.9	60.0	100	6/22	38	0	10.9
IDO629	116.0	107.7	125.0	59.4	100	6/26	40	0	10.6
Cataldo	123.2	108.8	124.6	59.1	100	6/19	36	0	10.7
WA008090	---	---	124.2	59.7	100	6/23	39	0	10.9
Alturas	132.4	120.7	124.1	59.4	100	6/25	38	0	10.0
Penawawa	119.4	114.4	123.6	59.6	100	6/24	38	0	10.7
UI Pettit	128.3	113.2	123.0	60.2	100	6/16	32	0	10.2
IDO669	---	120.9	122.3	58.7	100	6/24	38	0	11.0
Nick	127.0	113.4	120.0	59.4	100	6/22	35	0	10.9
Waxy Penawawa	124.2	119.1	117.0	58.0	100	6/25	36	0	11.2
Average	119.0	114.4	128.0	59.4	100	6/23	37	0	10.7
LSD (α=.05)	9.7	24.5	11.6	1.5	0.0	1.5	2.3	0.0	
CV %	5.7	15.1	6.4	1.2	0.0	0.6	4.4	.	
Pr > F	<.0001	0.9757	0.0307	0.0002	.	<.0001	<.0001	.	

Table 41. Agronomic data for spring wheat, Idaho Falls, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**
Soft White Spring Wheat									
Treasure	95.6	150.4	148.8	58.2	100	6/29	35	0	8.6
BZ604-002	---	---	136.2	62.3	100	6/26	35	0	7.9
IDO671	---	153.9	135.8	62.2	100	6/26	35	0	8.7
Skookum	114.5	149.7	134.3	59.9	100	6/29	38	0	8.7
IDO669	---	145.8	133.0	62.0	100	6/27	39	0	8.4
IDO644	---	161.7	132.6	60.3	100	6/22	33	0	7.9
Alturas	109.2	152.0	130.6	61.6	100	6/27	34	0	7.9
IDO630	---	133.1	130.1	61.4	100	6/29	34	0	9.1
UI Pettit	118.0	138.0	130.0	60.5	100	6/22	30	0	8.9
Alpowa	106.0	143.9	129.9	61.4	100	6/29	39	0	8.9
Whit	91.8	133.1	129.7	62.2	100	6/24	35	0	9.1
Challis	93.9	145.1	128.7	61.7	100	6/27	36	0	7.7
IDO629	---	133.2	127.9	61.1	100	6/30	38	0	8.3
IDO599	---	---	127.4	61.5	100	6/22	34	0	7.6
Nick	113.3	137.7	126.4	62.8	100	6/25	34	0	8.7
IDO668	---	138.9	125.9	61.3	100	6/26	34	0	8.5
WA008039	---	---	124.2	63.2	100	6/27	38	0	8.2
WA008090	---	---	123.8	59.9	100	6/27	38	0	8.8
Waxy Penawawa	92.3	140.8	121.5	62.0	100	6/29	33	0	9.3
Cataldo	102.8	141.0	120.4	61.6	100	6/23	33	0	8.6
Penawawa	89.3	146.0	117.2	63.4	100	6/28	35	0	8.3
Average	100.0	143.8	129.3	61.4	100	6/26	35	0	8.5
LSD (α=.05)	11.6	13.1	10.1	0.8	0.0	0.8	2.0	0.0	
CV %	8.2	6.4	5.5	0.9	0.0	0.3	4.0	.	
Pr > F	<.0001	0.0008	<.0001	<.0001	.	<.0001	<.0001	.	

Table 42. Agronomic data for spring wheat at Ashton, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**
Soft White Spring Wheat									
IDO668	---	105.9	108.2	62.8	100	7/20	38	0	8.0
IDO629	---	121.4	104.9	63.3	100	7/24	39	0	7.7
IDO630	---	107.4	104.9	63.2	100	7/22	35	0	8.2
Treasure	95.5	106.5	103.8	61.6	100	7/23	36	0	7.9
Cataldo	82.8	106.5	102.4	62.8	100	7/19	34	0	7.9
WA008039	---	---	102.4	64.3	100	7/22	39	0	7.4
Alpowa	78.8	111.4	100.2	62.8	100	7/23	39	0	7.0
Challis	77.3	111.8	100.2	62.2	100	7/23	37	0	7.4
WA008090	---	---	98.7	63.4	100	7/21	38	0	7.4
IDO644	---	111.5	98.0	62.0	99	7/18	35	0	7.6
BZ604-002	---	---	97.3	63.4	100	7/18	37	0	7.8
IDO599	---	---	96.6	62.3	100	7/20	35	0	7.6
Alturas	80.6	113.9	96.2	62.5	100	7/22	35	0	6.9
IDO671	---	111.9	95.8	62.5	100	7/21	37	0	7.2
Nick	71.1	100.6	94.4	63.0	99	7/19	35	0	7.9
IDO669	---	113.8	94.0	62.8	100	7/20	38	0	7.3
Skookum	94.0	104.8	94.0	61.8	100	7/23	35	0	8.1
Waxy Penawawa	65.3	107.9	94.0	63.6	100	7/23	32	0	7.3
UI Pettit	95.5	102.6	93.7	62.5	100	7/20	35	0	8.5
Penawawa	70.4	96.9	88.9	63.6	98	7/22	35	0	7.0
Whit	---	99.3	85.3	63.2	100	7/20	35	0	7.3
Average	81.0	107.9	97.8	62.8	100	7/21	36	0	7.6
LSD (α=.05)	12.9	14.7	18.0	1.0	1.2	0.9	2.4	0	
CV %	11.2	8.2	13.0	0.6	0.9	0.3	4.6	.	
Pr > F	<.0001	0.1983	0.7493	<.0001	0.1538	<.0001	<.0001	.	

Table 43. Agronomic data for spring wheat at Soda Springs, dryland, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in)**	**(%)**	**(%)**
Soft White Spring Wheat									
IDO629	16.8	22.0	103.7	57.0	95	7/26	31	0	8.4
IDO599	---	---	97.3	61.1	96	7/18	28	0	7.6
IDO671	---	36.4	96.7	62.0	95	7/22	28	0	7.6
WA008039	---	---	96.0	60.2	99	7/23	32	0	7.6
Challis	11.7	26.5	95.3	58.6	90	7/23	29	0	7.5
BZ604-002	---	---	90.7	62.5	98	7/18	30	0	7.8
IDO669	---	32.1	90.6	62.0	89	7/20	31	0	8.2
Treasure	16.0	21.3	90.6	57.8	93	7/26	28	0	8.4
Penawawa	11.2	27.1	89.5	62.6	89	7/21	27	0	8.0
WA008090	---	---	89.2	55.6	95	7/21	31	0	8.2
Alturas	13.5	29.7	89.1	61.3	91	7/21	28	0	7.7
IDO644	---	42.2	88.1	59.9	93	7/17	27	0	7.5
Cataldo	18.9	38.5	87.8	61.8	91	7/17	27	0	8.0
Whit	13.8	31.9	85.5	61.3	91	7/19	28	0	7.7
Nick	22.0	31.5	83.1	62.0	94	7/19	27	0	8.4
IDO630	---	33.0	80.3	61.5	100	7/22	27	0	8.8
Alpowa	13.7	23.0	79.9	51.2	88	7/24	30	0	8.9
Skookum	14.0	18.8	76.7	59.4	90	7/22	28	0	9.1
IDO668	---	37.6	75.8	61.6	95	7/19	29	0	8.2
UI Pettit	17.5	33.0	74.6	61.3	86	7/16	22	0	8.3
Waxy Penawawa	9.9	26.8	74.3	61.2	90	7/23	25	0	8.4
Average	13.7	30.1	87.4	60.1	93	7/21	28	0	8.1
LSD (α=.05)	10.0	8.1	12.8	2.7	7.0	1.8	2.3	0	
CV %	47.8	18.9	10.2	2.9	5.3	0.6	5.8	.	
Pr > F	0.1969	<.0001	0.0002	<.0001	0.0076	<.0001	<.0001	.	

Table 44. Agronomic data for spring barley at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
6- Row Spring Feed Barley												
Millennium	177.0	162.1	129.3	50.2	99	6/11	37	0	9.2	71.5	19.4	10.1
Creel	157.2	133.9	128.9	51.7	98	6/15	37	0	7.8	77.2	15.7	7.8
Herald	152.7	159.8	128.0	49.8	97	6/17	37	0	8.4	81.1	13.3	6.5
Colter	150.8	144.3	127.1	51.0	99	6/15	34	0	7.9	78.2	14.7	7.7
Steptoe	165.8	105.6	119.8	49.6	99	6/15	35	0	7.9	82.6	11.8	6.2
UT99B1670-3530	---	---	118.4	50.8	98	6/15	38	0	8.3	90.2	7.5	2.6
UT04B2041-42	---	153.4	117.5	52.3	99	6/20	36	0	8.3	86.7	9.8	4.1
Goldeneye	155.0	118.4	117.1	52.1	98	6/18	38	0	8.3	85.2	11.3	4.5
Aquila	158.3	130.8	115.3	52.7	98	6/10	37	0	8.8	87.1	9.0	4.0
Celebration	---	---	81.2	51.6	98	6/18	38	0	10.7	88.6	9.2	2.9
6- Row Spring Malt Barley												
Morex	153.3	101.3	99.4	51.0	99	6/19	36	20	9.5	73.6	17.1	9.9
Lacey	162.8	110.0	93.5	53.2	98	6/16	36	0	9.9	88.0	10.1	2.7
Legacy	146.6	124.6	84.9	52.5	98	6/17	38	0	8.9	89.7	8.7	2.6
Tradition	148.1	122.7	74.0	50.6	98	6/17	39	1	9.7	89.4	8.2	3.0
Average	155.7	130.6	109.6	51.4	98	6/16	37	2	8.8	83.5	11.8	5.3
LSD (α=.05)	15.8	19.4	20.1	1.1	2.3	1.7	3.3	14.7				
CV %	7.1	10.4	12.7	1.5	1.6	0.7	6.3	727.2				
Pr > F	0.0014	<.0001	<.0001	<.0001	0.9272	<.0001	0.0958	0.4708				

Table 45. Agronomic data for spring barley, Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
6-Row Spring Feed Barley												
Millennium	172.1	158.3	140.0	47.7	100	6/18	40	0	11.1	71.7	16.9	11.9
Creel	155.5	161.2	131.5	47.3	100	6/18	38	46	9.8	61.7	22.0	16.7
Colter	142.1	155.5	131.2	47.8	100	6/17	41	6	9.6	72.5	17.1	10.6
Steptoe	126.9	157.9	124.4	45.8	100	6/18	34	68	10.1	83.4	10.5	6.4
Herald	153.0	155.7	124.2	46.1	100	6/18	40	14	10.3	72.3	16.6	11.3
Aquila	171.4	160.8	123.6	49.7	100	6/16	41	3	11.4	79.0	12.7	7.9
UT99B1670-3530	---	---	119.9	46.0	100	6/20	37	51	12.6	63.4	18.3	18.3
Goldeneye	172.1	159.5	117.4	47.4	100	6/19	37	65	13.4	66.4	16.5	16.8
UT04B2041-42	---	166.6	117.3	45.4	100	6/18	36	40	10.4	83.0	14.2	8.2
Celebration	---	---	105.4	49.0	100	6/21	38	83	13.1	79.2	13.3	7.7
6-Row Spring Malt Barley												
Legacy	150.2	143.5	118.8	48.6	100	6/19	37	78	12.5	71.8	15.6	12.9
Morex	115.1	128.2	117.0	47.3	100	6/21	39	93	12.1	66.2	18.2	15.8
Lacey	150.1	152.5	115.7	50.2	100	6/19	39	60	12.3	82.8	10.6	6.9
Tradition	158.0	135.2	115.3	50.1	100	6/19	41	8	12.0	85.7	9.9	4.8
Average	148.3	152.9	121.5	47.7	100	6/19	38	44	11.5	74.2	15.2	11.2
LSD (α=.05)	20.9	15.0	11.3	1.4	0	2.0	3.4	29.5				
CV %	9.9	7.0	6.5	2.0	0	0.8	6.2	46.4				
Pr > F	<.0001	<.0001	<.0001	<.0001	.	<.0001	0.0028	<.0001				

Table 46. Agronomic data for spring barley at Idaho Falls, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
6 - Row Spring Feed Barley												
UT04B2041-42	---	175.4	153.8	52.3	100	6/27	35	0	9.0	71.4	19.0	10.2
Goldeneye	153.2	162.3	142.9	53.2	100	6/26	35	0	8.6	81.8	13.2	5.0
UT99B1670-3530	---	---	137.9	50.6	100	6/26	36	0	8.8	92.3	6.7	2.2
Creel	138.3	173.5	134.3	52.2	100	6/24	36	0	7.9	76.4	17.4	7.3
Steptoe	129.8	172.1	133.9	49.7	100	6/25	35	13	8.7	81.4	12.2	7.0
Millennium	144.1	164.7	132.9	51.8	100	6/24	35	20	8.9	68.7	20.9	10.7
Colter	130.7	157.7	130.2	51.5	100	6/26	35	0	8.0	73.1	18.8	8.7
Aquila	131.6	156.5	124.3	52.9	100	6/22	34	15	9.6	79.0	13.8	7.4
Herald	137.4	157.9	117.1	50.4	100	6/25	36	0	8.4	80.4	13.9	6.1
Celebration	---	---	108.4	52.7	100	6/27	34	1	11.1	86.7	11.0	2.6
6 - Row Spring Malt Barley												
Tradition	118.3	106.8	127.5	53.6	100	6/26	37	0	10.0	93.1	6.5	1.4
Legacy	119.4	128.9	124.3	52.2	100	6/27	37	44	9.5	79.0	15.5	5.9
Lacey	114.6	114.0	119.8	53.8	100	6/25	34	0	9.9	87.4	10.9	2.4
Morex	88.3	121.5	119.8	51.8	100	6/27	37	9	10.3	69.2	19.9	11.4
Average	125.3	149.3	129.1	52.0	100	6/25	35	7	9.2	80.0	14.3	6.3
LSD (α=.05)	13.6	18.3	10.7	0.9	0.0	1.1	3.2	27.9				
CV %	7.6	8.9	5.8	1.1	0.0	0.4	6.3	289.6				
Pr > F	<.0001	<.0001	<.0001	<.0001	.	<.0001	0.3995	0.1312				

Table 47. Agronomic data for spring barley at Ashton, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
6-Row Spring Feed Barley												
Goldeneye	71.3	125.2	105.3	54.3	99	7/20	35	0	8.6	97.9	2.2	0.6
Steptoe	71.7	118.2	101.6	52.0	100	7/18	37	0	7.4	97.8	2.1	1.0
UT04B2041-42	---	131.3	100.3	53.3	100	7/21	36	0	7.8	97.2	2.7	1.0
UT99B1670-3530	---	---	99.8	52.9	100	7/18	37	0	8.6	99.5	1.0	0.4
Creel	73.1	109.4	96.2	53.8	100	7/18	36	0	7.4	96.2	3.2	1.6
Herald	54.5	102.6	96.2	51.2	98	7/18	38	0	7.7	96.6	2.6	1.1
Millennium	82.6	119.4	90.3	52.5	98	7/19	37	0	8.5	92.0	6.4	2.3
Colter	63.1	112.6	88.5	52.4	100	7/19	36	0	6.6	95.4	3.9	1.9
Aquila	79.9	111.6	84.9	54.3	100	7/17	37	0	8.7	96.7	2.5	0.8
Celebration	---	---	76.2	53.3	98	7/22	36	0	10.3	97.8	2.4	0.7
6-Row Spring Malt Barley												
Morex	78.5	103.7	103.5	54.1	100	7/20	37	5	9.0	95.8	3.8	1.0
Legacy	70.4	111.4	94.4	53.8	98	7/20	41	0	8.9	98.9	1.4	0.6
Tradition	71.7	100.4	79.4	53.8	100	7/19	39	0	9.5	98.3	2.0	0.6
Lacey	58.6	111.9	78.0	53.5	100	7/20	38	0	9.2	97.7	2.1	0.8
Average	70.8	114.0	92.5	53.2	99	7/19	37	0	8.4	97.0	2.7	1.0
LSD (α=.05)	12.0	13.7	20.1	0.7	2.3	1.0	2.4	3.7				
CV %	11.9	7.1	15.1	0.9	1.6	0.3	4.6	774.6				
Pr > F	0.0006	0.0019	0.0485	<.0001	0.1053	<.0001	0.0019	0.4708				

Table 48. Agronomic data for spring barley at Rupert, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protien	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
2-Row Spring Feed Barley												
Baronesse	140.2	149.3	161.9	54.1	100	6/20	32	5	8.5	92.1	5.7	2.9
Calgary	142.1	173.2	150.9	54.4	98	6/21	30	0	9.2	95.9	4.1	0.9
Spaulding	144.7	165.9	150.7	54.8	99	6/21	31	0	9.2	93.9	4.3	2.4
Lenetah	141.1	177.6	149.7	53.7	99	6/20	36	15	9.3	93.8	4.3	2.6
Xena	144.1	159.5	149.1	53.9	100	6/17	32	3	9.1	88.4	8.1	3.6
RWA 1758	---	152.2	148.3	53.9	100	6/20	29	0	8.5	91.0	6.6	3.2
Champion	142.3	165.4	147.8	54.8	100	6/18	32	0	8.6	91.5	7.0	2.0
02WA-1095	---	172.2	147.6	52.7	100	6/19	31	10	8.6	83.0	11.0	7.0
Tetonia	14.7.8	152.2	144.9	53.0	100	6/21	34	55	9.5	79.7	11.1	9.9
Primo	13.7	150.3	143.9	53.1	99	6/20	30	0	8.1	87.4	8.6	4.5
02WA-7028.9	---	142.0	141.5	53.5	99	6/19	33	43	9.4	90.5	7.2	3.1
Boulder	142.7	147.8	137.0	55.8	100	6/18	33	0	8.7	98.5	1.4	0.9
Burton	140.4	151.3	135.2	54.1	100	6/20	34	0	9.2	95.6	3.3	2.0
Radiant	134.5	146.9	134.1	53.8	99	6/20	33	23	8.7	83.2	11.3	5.8
Idagold II	145.7	159.6	132.9	54.0	100	6/23	25	0	9.3	96.0	4.2	0.9
2Ab04-X00017-4	---	---	130.4	53.7	100	6/21	33	48	9.2	94.8	3.6	2.2
CDC Bold	140.5	159.1	130.2	52.7	100	6/21	33	0	8.7	92.8	6.0	1.9
Camas	140.5	154.7	126.8	54.2	99	6/20	35	0	9.6	92.6	5.6	2.5
Haxby	143.8	150.8	123.2	54.6	99	6/19	32	0	8.6	95.9	3.4	1.6
Valier	13.9	156.1	121.2	54.8	100	6/22	32	0	9.2	97.5	4.5	1.4
Clearwater*	112.9	126.9	110.0	60.0	97	6/20	33	3	10.6	82.4	13.5	5.3
CDC Mc Gwire*	123.2	143.0	105.8	62.7	100	6/23	33	0	8.5	57.9	32.7	10.1
Hayes	125.0	139.5	101.1	52.1	100	6/22	33	40	8.9	86.7	8.3	5.7
03AH6561-94	---	---	96.8	60.8	98	6/28	34	0	10.8	93.1	5.5	1.8
03AH3054-51	---	---	94.4	58.7	100	6/21	36	0	9.9	81.2	15.3	4.0
2-Row Spring Malt Barley												
C127	---	---	154.6	51.9	100	6/27	25	0	9.8	94.7	4.3	1.4
C128	---	---	154.5	54.6	99	6/25	25	0	8.8	92.7	5.5	2.3
C121	---	---	149.4	52.2	100	6/25	23	0	9.3	94.4	4.0	2.0
Moravian 69	139.4	157.1	143.2	52.8	99	6/24	27	0	8.5	92.7	5.4	2.2
C98	---	---	136.9	49.5	99	6/30	27	0	10.7	89.9	7.3	3.3
Conrad	107.8	150.3	134.3	53.3	99	6/20	32	0	10.1	92.7	5.3	2.2
Copeland	---	---	134.3	54.6	98	6/24	40	0	9.5	96.6	2.6	1.7
02Ab17271	---	154.2	127.5	52.3	100	6/26	32	0	7.8	90.6	7.8	2.3
Geraldine	134.6	146.4	125.1	54.0	99	6/22	29	0	8.4	88.2	9.0	3.3
Pinnacle	135.1	142.0	123.5	54.7	100	6/17	38	0	9.4	97.3	1.6	1.6
Craft	125.5	133.7	117.6	54.6	100	6/18	34	0	9.5	93.1	5.3	2.2
Merit 16	138.8	153.7	113.6	53.4	100	6/22	34	25	8.7	91.7	6.0	2.5
CDC Stratus	129.4	130.3	112.9	53.2	100	6/22	34	0	9.5	96.4	3.2	1.1
AC Metcalfe	130.2	135.2	112.2	54.3	100	6/21	39	0	9.3	97.0	2.7	1.0
Harrington	117.8	126.9	112.2	52.7	100	6/22	33	38	9.7	81.9	10.9	7.8
B1202	130.8	146.9	111.3	52.6	100	6/20	32	35	9.7	92.7	5.6	2.2
Merit	125.1	146.4	107.8	51.3	99	6/24	34	35	8.5	84.5	10.6	5.5
02Ab17373	---	146.9	106.5	52.9	100	6/26	36	0	9.1	91.9	6.9	2.1
Hockett	122.2	150.8	103.0	54.4	100	6/20	33	28	9.1	96.1	2.6	1.8
Average	134.0	151.4	129.4	54.2	99	6/21	32	9	9.2	90.7	6.9	3.1
LSD (α=.05)	20.9	26	21.6	1.2	2.0	1.9	4.6	44.8				
CV %	11.1	12.2	8.2	1.6	1.0	0.5	7.3	223.5				
Pr > F	0.0229	0.0060	<.0001	<.0001	0.3833	<.0001	<.0001	0.3920				

* indicates hulless variety

Table 49. Agronomic data for spring barley, Aberdeen, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
2-Row Spring Feed Barley												
RWA 1758	---	158.5	144.3	51.5	100	6/23	30	5	11.1	88.5	8.0	3.8
Champion	149.5	158.7	142.9	51.0	100	6/22	35	33	12.1	79.2	13.5	7.7
2Ab04-X00017-4	---	---	142.7	51.1	100	6/21	34	40	11.1	89.6	5.7	5.1
Xena	142.3	165.3	139.9	50.6	100	6/23	35	68	12.0	81.4	9.9	8.9
Spaulding	136.7	157.6	139.6	52.7	100	6/24	37	10	11.4	88.4	6.8	5.4
02WA-7028.9	---	152.3	139.3	50.7	100	6/22	36	11	12.3	83.4	10.8	6.3
Tetonia	130.6	148.3	138.2	50.8	100	6/24	36	6	12.1	77.2	12.5	10.5
Lenetah	127.5	152.0	137.4	52.2	100	6/22	35	55	12.0	92.6	5.2	2.9
Idagold II	133.1	138.2	136.8	49.7	100	6/26	28	0	11.3	80.8	13.8	6.0
CDC Bold	170.5	156.4	134.0	50.4	100	6/23	35	24	12.0	82.0	11.1	7.2
Baronesse	138.6	140.5	133.6	51.1	100	6/23	33	23	11.2	86.0	8.0	6.2
02WA-1095	---	151.0	132.4	49.5	100	6/23	32	93	11.0	83.2	9.9	7.5
Calgary	154.6	164.3	132.4	52.0	100	6/22	31	1	11.5	91.6	5.2	3.6
Primo	135.1	153.9	131.8	50.4	100	6/23	33	40	11.5	78.5	14.1	7.8
Boulder	141.5	141.5	129.8	51.9	100	6/22	34	58	12.3	85.3	8.8	6.6
Burton	143.2	147.4	126.9	51.2	100	6/23	39	24	12.1	84.9	8.0	7.4
Radiant	120.1	141.7	126.7	50.8	100	6/22	35	58	11.7	71.8	15.6	12.8
03AH6561-94	---	---	122.6	57.5	100	6/27	38	0	14.2	85.4	11.3	3.8
Camas	129.9	157.0	121.1	50.6	100	6/23	36	43	12.5	83.3	11.2	6.2
Haxby	134.2	156.0	121.0	52.5	100	6/22	36	39	11.9	88.4	6.6	5.6
Valier	127.9	142.3	118.0	51.3	100	6/23	35	34	12.2	82.7	12.2	5.5
CDC McGwire*	104.7	131.2	117.6	57.7	100	6/25	37	23	13.6	56.0	25.6	18.7
Clearwater*	102.7	130.6	111.1	54.8	100	6/25	35	65	15.6	59.3	23.9	17.4
Hayes	110.1	110.7	109.3	47.6	100	6/23	38	9	12.0	62.5	19.4	19.0
03AH3054-51	---	---	93.9	54.3	100	6/26	36	16	14.2	64.2	23.4	12.7
2-Row Spring Malt Barley												
Geraldine	123.2	140.7	135.3	50.6	100	6/25	35	18	11.4	77.2	12.5	10.2
Conrad	127.4	152.8	130.3	50.9	100	6/23	33	28	12.9	90.9	6.7	2.9
Pinnacle	142.7	143.0	128.9	51.3	100	6/21	38	3	11.0	96.1	3.1	1.7
02Ab17373	---	131.1	128.0	48.9	100	6/27	36	39	13.8	72.9	10.5	10.8
CDC Stratus	118.4	131.5	124.1	50.9	100	6/23	37	33	13.0	90.8	6.0	3.7
Merit	107.2	131.1	123.9	47.7	100	6/27	36	31	12.5	76.6	13.8	10.1
Hockett	119.0	129.1	123.8	50.8	100	6/21	34	36	11.4	89.3	7.3	4.3
Copeland	---	---	121.6	51.0	100	6/24	37	55	12.2	85.2	9.4	5.8
Craft	133.4	139.6	119.1	50.8	100	6/22	38	33	13.7	83.4	9.6	7.8
AC Metcalfe	108.4	121.3	117.4	50.1	100	6/24	36	69	13.6	83.9	8.9	7.8
B1202	111.9	129.7	116.1	49.6	100	6/23	35	29	12.7	87.6	8.6	4.1
02Ab17271	---	125.4	113.7	48.3	100	6/28	36	31	13.5	72.9	14.3	13.3
Merit 16	131.7	142.0	112.3	48.2	100	6/24	34	33	12.9	70.1	16.2	13.9
Harrington	115.6	121.1	104.8	49.2	100	6/24	35	70	12.8	76.5	14.2	9.7
Average	128.1	142.7	126.2	51.1	100	6/23	35	33	12.4	81.0	11.3	8.0
LSD (α=.05)	20.1	16.8	15.8	1.7	0.0	2.1	2.7	32.8				
CV %	11.2	8.4	8.2	2.4	0.0	0.9	5.6	80.5				
Pr > F	<.0001	<.0001	<.0001	<.0001	.	<.0001	<.0001	<.0001				

* indicates hulless variety

Table 50. Agronomic data for spring barley at Idaho Falls, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
2-Row Spring Feed Barley												
Calgary	147.2	171.5	146.1	55.6	100	6/30	29	0	9.7	92.8	5.1	2.4
Baronesse	135.6	167.5	146.1	55.1	100	7/1	31	8	9.1	86.8	9.3	4.0
RWA 1758	---	171.0	145.7	54.8	100	6/30	29	6	9.1	85.4	11.0	3.9
Lenetah	147.1	163.1	144.8	54.9	100	6/30	33	68	9.7	93.7	5.9	2.8
Spaulding	144.6	173.6	144.3	56.2	100	6/30	35	0	9.3	94.8	3.9	1.7
2Ab04-X00017-4	---	---	142.5	54.9	100	6/30	34	0	9.3	92.8	5.0	2.4
02WA-7028.9	---	174.6	141.6	54.7	100	6/29	33	0	10.1	89.1	8.6	2.8
Xena	134.3	184.4	141.1	54.1	100	6/30	35	13	8.9	79.9	14.9	4.9
Burton	142.9	168.3	140.2	55.3	100	6/29	34	0	9.4	96.0	3.2	1.2
Tetonia	138.1	147.2	139.3	54.9	100	7/1	31	0	8.9	86.4	10.2	3.8
Radiant	124.6	151.1	138.4	54.5	100	6/30	32	0	8.4	77.4	16.3	6.4
Champion	143.3	187.1	137.9	55.3	100	6/29	32	0	8.9	87.2	10.1	3.2
CDC Bold	145.7	156.4	137.5	54.9	100	6/30	34	0	9.6	90.9	7.0	2.6
02WA-1095	---	157.6	137.1	53.1	100	6/30	31	25	9.3	75.8	14.2	10.9
Camas	138.8	159.8	137.1	55.4	100	6/29	35	5	10.3	91.8	5.6	2.7
CDC McGwire*	119.5	143.3	136.6	62.6	100	7/1	33	5	10.2	53.1	34.6	12.6
Primo	98.0	162.4	135.2	54.1	100	6/30	28	13	8.8	85.5	10.0	4.9
Haxby	132.9	149.9	130.2	56.3	100	6/29	33	0	9.0	94.5	4.8	1.4
Boulder	147.9	155.0	129.3	56.6	100	6/29	31	0	9.2	94.3	4.1	1.8
Idagold II	140.4	168.5	128.0	53.8	100	7/1	24	0	9.2	86.8	10.1	3.4
03AH6561-94	---	---	126.6	62.5	100	7/3	34	0	11.8	93.9	4.9	1.6
Hayes	117.2	110.1	126.1	52.0	100	7/1	34	1	9.9	78.5	14.3	7.4
Valier	130.5	122.0	124.8	54.6	100	7/1	34	20	10.6	84.9	10.8	4.5
Clearwater*	120.1	136.1	113.5	60.8	100	6/29	30	24	10.2	72.3	19.6	8.1
03AH3054-51	---	---	101.6	60.2	100	7/1	35	0	11.0	81.7	15.4	2.7
2-Row Spring Malt Barley												
Pinnacle	136.9	139.5	143.4	55.5	100	6/29	38	0	8.7	97.6	1.8	1.1
02Ab17271	---	123.2	136.6	52.4	100	7/3	33	9	9.8	81.6	12.2	6.6
02Ab17373	---	125.1	134.3	53.2	100	7/1	34	13	9.6	87.3	9.1	4.1
Copeland	---	---	133.9	54.4	100	7/1	34	0	9.9	97.1	2.5	1.2
Conrad	135.6	147.4	133.9	54.2	100	6/30	30	3	9.6	92.7	5.0	2.3
Geraldine	122.3	142.7	131.6	54.8	100	7/1	32	23	8.7	82.7	13.1	4.8
Merit	126.0	125.6	130.2	52.5	100	7/1	33	0	9.3	78.9	13.7	7.8
Craft	137.0	142.1	129.8	56.0	100	6/29	36	5	9.5	94.1	4.5	1.8
AC Metcalfe	118.2	124.9	128.9	54.6	100	6/29	33	5	9.6	93.2	4.8	2.0
Merit 16	131.0	130.5	127.1	53.3	100	6/30	31	0	8.8	80.0	15.0	5.3
B1202	126.2	138.5	124.8	52.9	100	6/30	35	14	10.4	88.0	8.2	4.0
Hockett	125.7	127.3	119.8	54.2	100	6/29	31	38	10.1	86.7	8.8	4.9
CDC Stratus	132.4	120.2	114.8	53.8	100	7/1	33	5	9.9	90.4	7.4	2.2
Harrington	104.6	121.4	109.4	53.1	100	7/1	35	38	10.4	79.1	12.7	8.1
Average	132.4	147.0	132.6	55.2	100	6/30	32	9	9.6	86.6	9.7	4.1
LSD (α=.05)	14.1	14.8	12.3	1.0	0.0	0.7	3.3	25.9				
CV %	7.6	7.1	6.6	1.3	0.0	0.3	7.6	214.7				
Pr > F	<.0001	<.0001	<.0001	<.0001	.	<.0001	<.0001	0.0002				

* indicates hulless variety

Table 51. Agronomic data for spring barley at Ashton, irrigated, 2009.

	Yield (bu/A)			Test Wt.	Spring	Heading	Height	Lodging	Protein	Plump		
Variety	**2007**	**2008**	**2009**	**(lb/bu)**	**Stand %**	**Date**	**(in.)**	**(%)**	**(%)**	**(>6/64)**	**(>5.5/64)**	**% Thin**
2-Row Spring Feed Barley												
Baronesse	84.0	129.3	123.0	55.4	100	7/25	30	0	7.3	98.7	0.8	0.6
02WA-1095	---	146.8	118.9	54.9	100	7/25	30	0	7.3	98.5	1.1	0.6
Primo	88.3	145.8	118.9	55.1	100	7/26	31	0	7.1	98.4	0.8	0.7
Spaulding	81.9	133.1	118.0	56.3	100	7/25	32	0	8.1	98.9	8.0	0.4
RWA 1758	---	137.7	115.3	55.1	100	7/24	30	0	7.2	98.9	1.0	0.5
2Ab04-X00017-4	---	---	113.4	55.0	100	7/23	31	0	8.1	98.9	1.0	0.6
Radiant	88.6	139.7	112.5	55.2	100	7/24	31	0	7.3	98.1	1.4	0.8
Lenetah	69.4	138.7	110.3	55.3	100	7/27	31	0	7.9	99.0	1.0	0.3
Camas	71.6	122.0	104.8	55.2	98	7/24	30	0	9.3	98.3	1.1	0.6
Champion	107.8	146.8	104.8	55.0	100	7/24	32	0	8.3	97.1	2.0	0.9
Xena	87.5	153.2	104.4	54.8	100	7/24	31	0	7.8	98.7	1.0	0.7
Idagold II	80.1	113.2	102.1	54.3	95	7/26	26	0	9.0	98.1	1.3	0.7
Calgary	77.8	138.4	100.7	55.6	100	7/25	28	0	7.7	97.8	1.6	0.6
CDC Bold	73.1	128.6	99.4	53.7	98	7/25	30	0	8.6	97.6	1.6	0.8
Valier	70.3	130.3	98.0	54.3	100	7/26	30	0	8.1	97.3	2.3	0.6
Tetonia	92.6	129.3	97.6	54.7	100	7/27	30	0	7.1	98.5	1.2	0.6
02WA-7028.9	---	134.4	96.2	54.5	100	7/24	29	0	7.7	98.5	1.0	0.9
Boulder	79.6	129.5	96.2	56.3	78	7/25	30	0	7.9	95.3	0.7	0.6
Burton	77.8	135.9	96.2	54.3	99	7/25	30	0	8.1	98.5	0.9	0.7
CDC McGwire*	58.4	98.1	91.7	62.4	99	7/25	30	0	9.2	79.4	16.1	4.7
Haxby	64.2	105.9	91.7	55.1	93	7/24	30	0	8.4	98.9	1.2	0.6
Hayes	68.0	131.5	91.7	52.7	100	7/26	32	0	7.4	96.2	2.3	1.6
03AH6561-94	---	---	87.6	62.3	92	8/2	31	0	9.8	94.5	4.2	1.1
Clearwater*	72.5	101.8	79.9	44.3	84	7/26	30	0	9.2	91.0	6.5	2.4
03AH3054-51	---	---	70.8	60.7	99	7/27	31	0	9.4	91.4	6.7	1.9
2-Row Spring Malt Barley												
02Ab17271	---	115.7	120.7	52.8	99	7/31	33	0	7.6	97.2	2.2	1.1
Conrad	96.7	124.6	103.9	54.0	100	7/25	31	0	8.1	98.7	0.9	0.8
Copeland	---	---	103.5	54.6	98	7/24	36	0	9.2	99.8	0.4	0.6
Merit	67.3	117.6	103.0	52.9	99	7/26	32	0	7.4	97.0	2.5	1.2
Merit 16	---	131.7	103.0	53.3	100	7/24	30	0	7.8	96.8	2.5	0.9
Geraldine	67.5	122.1	98.9	54.1	99	7/26	31	0	7.6	97.9	1.7	0.8
Hockett	77.1	126.9	98.9	55.2	100	7/23	31	0	8.5	98.9	1.1	0.3
Craft	69.6	120.8	96.2	55.1	100	7/22	34	0	8.9	98.6	1.0	0.8
02Ab17373	---	125.4	95.3	53.1	100	7/26	32	0	7.6	97.6	1.6	0.8
AC Metcalfe	62.6	117.7	93.5	54.5	100	7/25	32	0	7.8	98.7	0.9	0.7
CDC Stratus	54.2	125.9	93.0	53.6	99	7/26	30	0	8.9	98.5	1.1	0.8
Harrington	75.3	120.3	92.6	54.6	99	7/25	32	0	8.4	97.1	1.8	0.9
B1202	76.6	118.5	88.0	54.0	100	7/25	30	0	8.1	98.9	0.7	0.5
Pinnacle	73.0	112.3	84.9	54.7	92	7/23	33	0	8.7	99.2	0.6	0.7
Average	77.00	127.2	100.5	54.8	98	7/25	31	0	8.2	97.2	2.2	0.9
LSD (α=.05)	12.1	19.9	17.8	7.4	12.0	1.9	2.8	0				
CV %	11.2	9.7	12.6	9.7	8.7	0.7	6.6	.				
Pr > F	<.0001	<.0001	<.0001	0.5984	0.4102	<.0001	<.0001	.				

* indicates hulless variety

Table 52. Hard Winter Wheat Yield Percentage of Location Averages, 2009.

(100% =Average)

Variety	Kimberly	Rupert	Aberdeen	Ririe	Preston	Variety Average
UI Silver (W)	---	---	---	116	---	116
BC002-02	111	111	115	---	---	112
NuHorizon (W)	111	102	129	109	110	112
Deloris	104	116	111	114	109	111
Norwest 553	114	106	115	107	112	111
IDO 621	106	113	104	114	111	110
ML9W05-2501	110	100	119	105	106	108
Yellowstone	109	111	105	99	110	107
Promontory	112	98	110	97	113	106
Whetstone	104	91	122	---	---	105
Juniper	---	---	---	105	---	105
Curlew	105	101	101	110	104	104
Moreland	102	93	107	106	104	103
Utah 100	105	100	95	104	107	102
Boundary	99	96	110	107	97	102
MT0495	106	96	101	97	104	101
Garland	95	103	106	106	95	101
NuHills	105	91	113	86	108	101
AgriPro Paladin	109	96	95	---	---	100
DW	94	104	90	103	107	100
UICF Grace (W)	---	---	---	99	---	99
Gary (W)	92	115	80	108	98	99
MDM (W)	98	92	86	115	101	98
Manning	93	108	91	99	99	98
Bauermeister	95	103	74	119	98	98
Eddy	106	97	98	91	95	97
UI Darwin (W)	89	117	81	92	95	95
Esperia	93	88	113	68	103	93
Golden Spike (W)	90	93	76	98	104	92
Weston	84	103	86	101	87	92
Bonneville	92	98	88	100	76	91
Mieti (W)	85	78	92	64	76	79
Mol (W)	81	82	85	60	82	78
Location Average (bu/A)	131	115	108	47	90	

(W) = White

Table 53. Soft White Winter Wheat Yield Percentage of Location Averages, 2009.

	(100% =Average)				Variety
	Kimberly	Rupert	Aberdeen	Ririe	Average
Coda *	101	101	110	118	107
Bitterroot	103	102	108	114	107
ID-D-05	102	113	100	107	106
Tubbs 06	108	103	106	101	105
Legion	109	106	97	105	104
ORCF-102	105	107	100	105	104
Bruneau	106	103	103	100	103
Madsen	101	100	103	106	103
Simon	100	98	106	105	103
Bruehl *	98	99	96	116	102
IDO 587	98	90	110	109	102
00-475-2DH	108	93	95	112	102
Xerpha	95	100	105	107	101
Salute	101	107	92	104	101
WB 528	102	91	110	98	100
ORCF-101	96	99	107	96	99
Brundage 96	99	101	105	91	99
Goetze	96	104	94	101	99
UICF Brundage	95	94	104	101	99
UICF Lambert	101	101	97	94	98
Lambert	105	108	104	77	98
Daws	100	90	98	104	98
Westbred 470	101	98	99	93	98
Clearfirst	92	100	95	103	98
Stephens	95	92	101	99	97
IDO 655	97	94	91	97	95
WB 456	95	108	88	84	94
Brundage	104	109	91	72	94
Chukar *	91	93	93	95	93
Skiles	97	95	93	85	92
Location Average (bu/A)	139	122	122	45	

* = Club Wheat

Table 54. Winter Barley Yield Percentage of Location Averages, 2009.

	(100% =Average)		Variety
	Rupert	Aberdeen	Average
Sunstar Pride	116	124	120
93Ab669	111	115	113
91Ab36	106	119	112
02Ab2701	108	112	110
91Ab23	110	111	110
92Ab561	101	111	106
97Ab11	100	112	106
Eight-Twelve	109	103	106
93Ab631	115	96	106
02Ab2739	109	101	105
94Ab1777	103	105	104
02Ab2732	105	103	104
97BX42-116-17A	101	105	103
92Ab1308	105	101	103
Sprinter	103	101	102
Strider	90	113	101
OR74	106	95	100
OR75	101	90	96
OR73	89	102	95
OR77	95	96	95
Endeavor	97	94	95
Charles	102	88	95
Schuyler	89	100	95
OR78	97	92	94
96AB69	86	98	92
Maja	87	94	90
88Ab536B	88	91	89
02Ab339	103	69	86
OR72	92	79	85
OR76	79	79	79
Location Average(bu/A)	153	153	

Table 55. Hard Spring Wheat Yield Percentage of Location Averages, 2009.

			(100% =Average)		Soda	
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Springs**	**Variety Average**
Otis (W)	116	117	117	117	125	119
Idaho 377s (W)	118	114	115	129	112	118
Lolo (W)	117	111	125	114	119	117
Jerome	116	106	104	106	111	109
IDO 667	107	104	104	110	116	108
Lochsa (W)	105	108	108	103	111	107
Jefferson	97	108	108	105	109	105
Bullseye	107	107	100	107	104	105
Iona	108	100	104	103	104	104
OR 4990114	102	104	100	97	114	103
BZ904-336 WP (W)	95	93	106	109	109	102
WB-Paloma (W)	97	100	98	98	114	101
UI Winchester	92	101	101	103	103	100
WestBred 936	99	97	104	97	100	99
IDO 665	---	---	---	---	99	99
RSI 50603	93	106	93	106	96	99
Cabernet	95	101	94	104	99	99
Tara 2002	83	93	109	102	105	98
Buck Pronto	95	101	101	89	103	98
RSI 03W10348 (W)	96	92	93	109	98	97
Summit	97	94	96	107	93	97
Choteau	98	104	97	93	93	97
RSI 40292R	94	101	99	96	94	97
Pristine (W)	98	95	102	92	96	97
BZ901-717	104	103	101	86	86	96
Kelse	98	96	95	89	95	95
NPB HR 70	89	94	98	97	93	94
Blanca Grande (W)	93	96	97	85	94	93
Snow Crest (W)	91	94	92	85	91	91
Klasic (W)	99	97	84	88	78	89
Durum Wheat						
Alzada	99	100	95	97	---	98
AP1526	101	105	92	99	82	96
Utopia	98	91	90	112	87	96
Kronos	99	87	91	95	86	92
Matt	101	91	85	89	82	90
Location Average (bu/A)	107	119	121	87	74	

(W) = White

Table 56. Soft White Spring Wheat Yield Percentage of Location Averages, 2009.

	(100% =Average)					
	Rupert	Aberdeen	Idaho Falls	Ashton	Soda Springs	Variety Average
IDO671	112.2	108.1	105.0	98.0	110.6	106.8
Treasure	99.2	106.5	115.1	106.2	103.6	106.1
IDO629	102.8	97.7	99.0	107.3	118.7	105.1
IDO599	109.0	103.0	98.5	98.7	111.4	104.1
IDO644	104.6	106.4	102.6	100.2	100.8	102.9
BZ604-002	102.5	102.4	105.4	99.5	103.8	102.7
Challis	101.6	99.7	99.6	102.4	109.1	102.5
WA008039	95.6	105.0	96.1	104.7	109.9	102.3
IDO669	105.4	95.5	102.9	96.1	103.7	100.7
Alturas	104.8	97.0	101.1	98.4	101.9	100.6
IDO668	106.6	101.7	97.4	110.6	86.7	100.6
IDO630	93.2	102.4	100.7	107.3	91.9	99.1
Skookum	100.9	102.1	103.9	96.1	87.8	98.2
Alpowa	94.3	102.0	100.5	102.4	91.5	98.2
Cataldo	88.7	97.4	93.2	104.7	100.5	96.9
WA008090	86.6	97.1	95.8	101.0	102.1	96.5
UI Pettit	103.9	96.1	100.6	95.8	85.4	96.4
Penawawa	100.9	96.5	90.7	90.9	102.4	96.3
Whit	95.2	98.4	100.4	87.2	97.8	95.8
Nick	92.2	93.7	97.8	96.5	95.1	95.1
Waxy Penawawa	99.7	91.4	94.0	96.1	85.1	93.3
Location Average (bu/A)	120.2	128.0	129.3	97.8	87.4	

Table 57. 6-Row Barley Yield Percentage of Location Averages, 2009.

	(100% =Average)				
	Rupert	Aberdeen	Idaho Falls	Ashton	Variety Average
Feed					
Millennium	116	115	103	97	108
Creel	116	108	104	103	108
UT04B2041-42	106	99	119	108	108
Goldeneye	105	97	110	113	106
Steptoe	108	102	103	109	106
Colter	114	108	101	95	104
UT99B1670-3530	106	96	107	107	104
Herald	115	102	90	103	103
Aquila	104	102	96	91	98
Malt					
Morex	89	96	93	111	97
Legacy	76	98	96	101	93
Lacey	84	95	93	84	89
Tradition	66	95	99	85	86
Celebration	73	87	84	82	81
Location Average (bu/A)	111	122	129	93	

Table 58. 2-Row Barley Yield Percentage of Location Averages, 2009.

			(100% =Average)		Variety
	Rupert	Aberdeen	Idaho Falls	Ashton	Average
Feed					
Baronesse	125	105	110	122	115
RWA 1758	115	113	110	114	113
Spaulding	117	109	109	117	113
Lenetah	116	108	109	109	110
02WA-1095	114	104	103	118	110
Xena	115	110	106	103	109
Primo	111	103	102	118	109
Champion	114	112	104	104	109
Calgary	117	104	110	100	108
Tetonia	112	108	105	97	106
02WA-7028.9	109	109	107	95	105
Radiant	104	99	104	112	105
CDC Bold	101	105	104	99	102
Idagold II	103	107	96	101	102
Burton	105	99	106	95	101
Boulder	106	102	97	95	100
Camas	98	95	103	104	100
Haxby	95	95	98	91	95
Valier	94	92	94	97	94
CDC McGwire*	82	92	103	91	92
Hays	78	86	95	91	87
Clearwater*	85	87	85	79	84
Malt					
C127	120	---	---	---	120
C128	120	---	---	---	120
C121	116	---	---	---	116
Moravian 69	111	---	---	---	111
2Ab04-X00017-4	101	112	107	112	108
C98	106	---	---	---	106
02Ab17271	99	89	103	120	103
Conrad	104	102	101	103	102
Copeland	104	95	101	103	101
Geraldine	97	106	99	98	100
Pinnacle	96	101	108	84	97
Merit	83	97	98	102	95
02Ab17373	82	100	101	94	95
Craft	91	93	98	95	94
Merit 16	88	88	96	102	93
AC Metcalfe	87	92	97	93	92
Hockett	80	97	90	98	91
CDC Stratus	87	97	86	92	91
B1202	86	91	94	87	90
03AH6561-94	75	96	95	87	88
Harrington	87	82	82	92	86
03AH3054-51	73	74	77	70	73
Location Average (bu/A)	129	128	133	101	

* indicates hulless variety

2009 Winter Grain Yield Percentage Across All Locations Charts

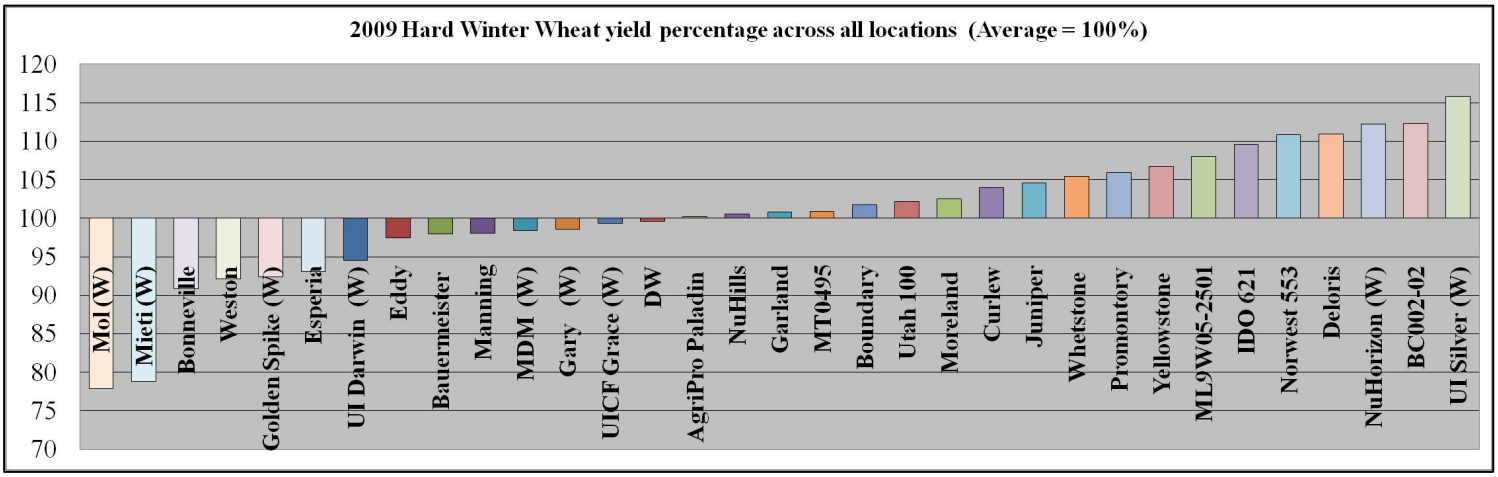


Chart 2. Hard Winter Wheat Yield Percentage Across All Locations.

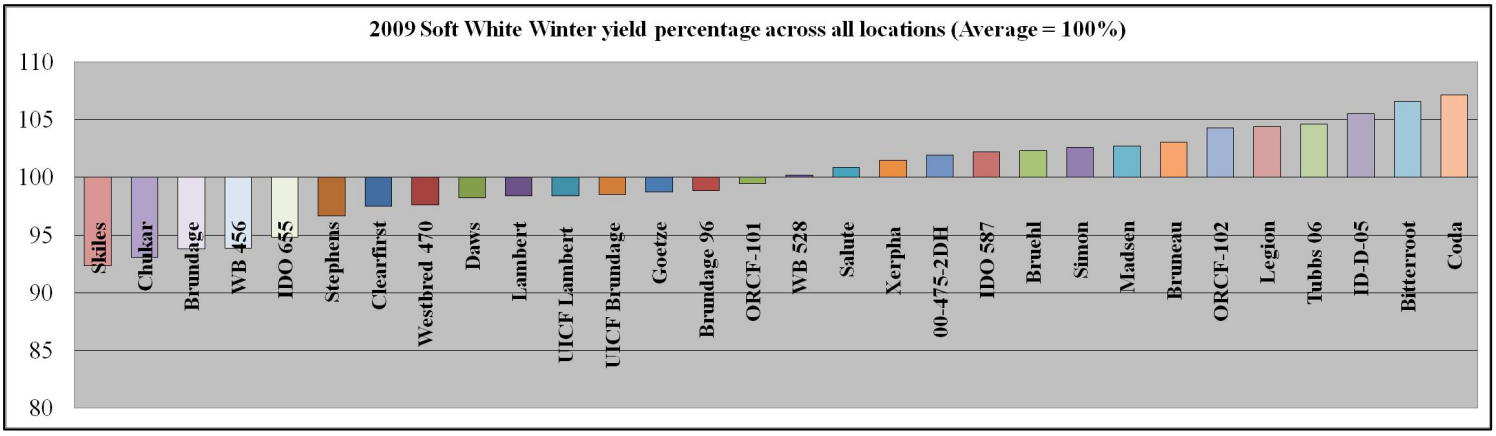


Chart 3. Soft White Winter Wheat Yield Percentage Across All Locations.

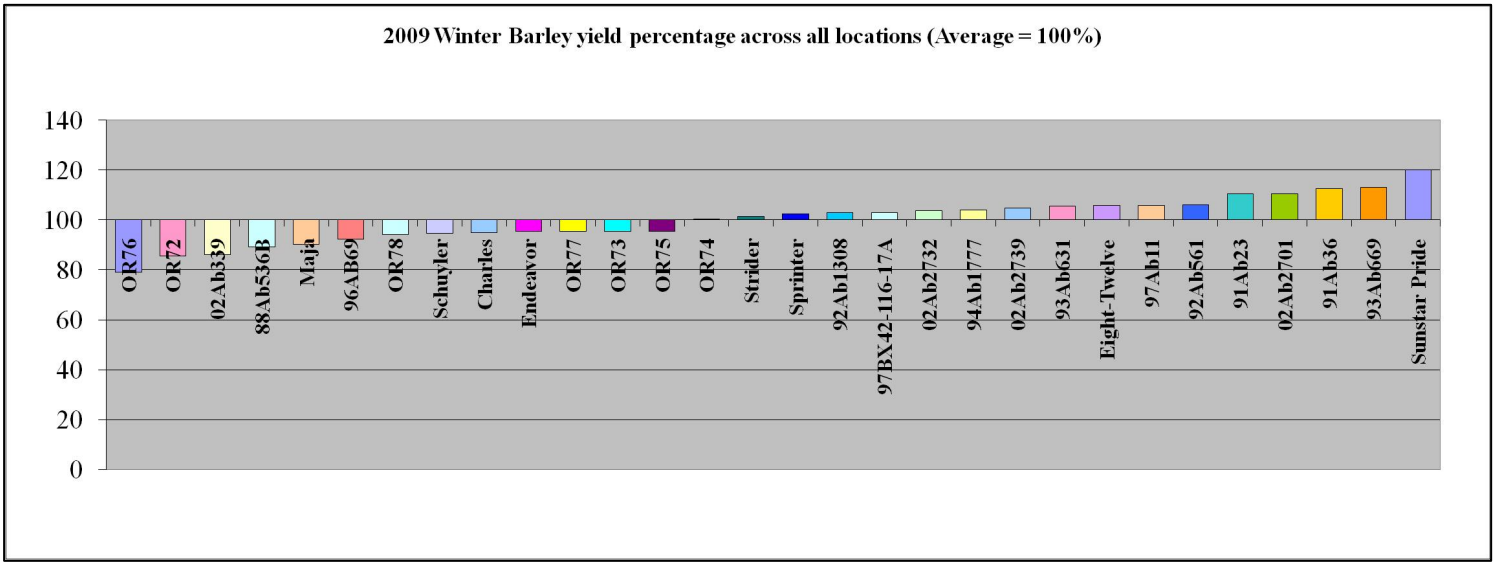


Chart 4. Winter Barley Yield Percentage Across All Locations.

2009 Spring Grain Yield Percentages Across Irrigated Locations Charts

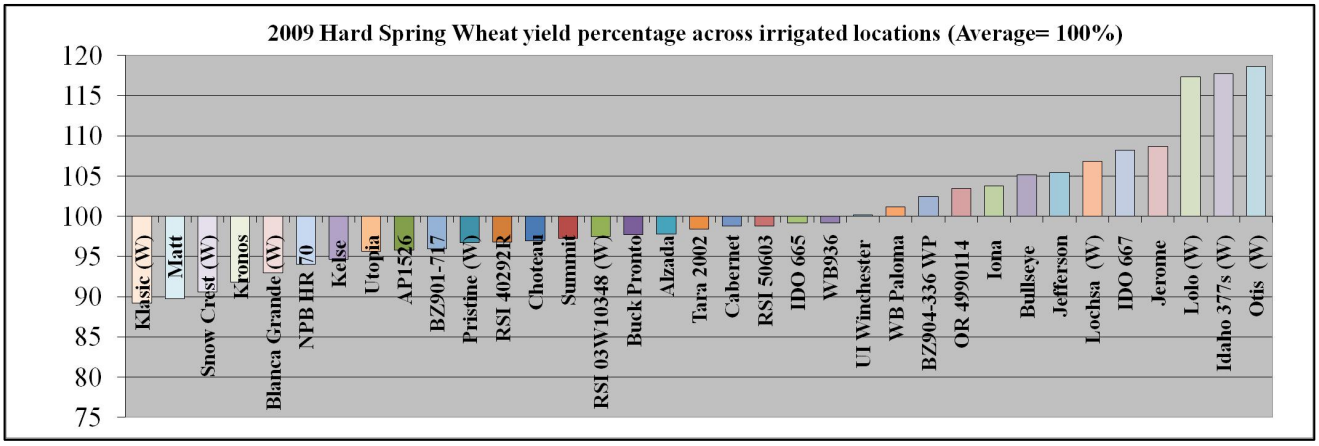


Chart 5. Hard Spring Wheat Yield Percentage Across Irrigated Locations.

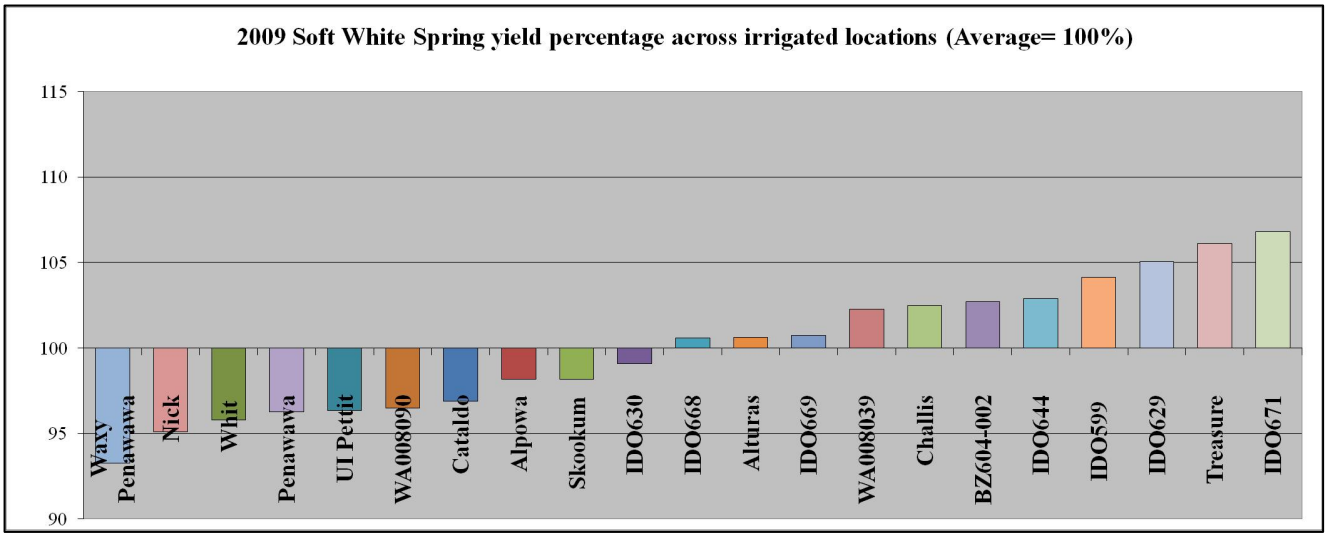


Chart 6. Soft White Spring Yield Percentage Across Irrigated Locations.

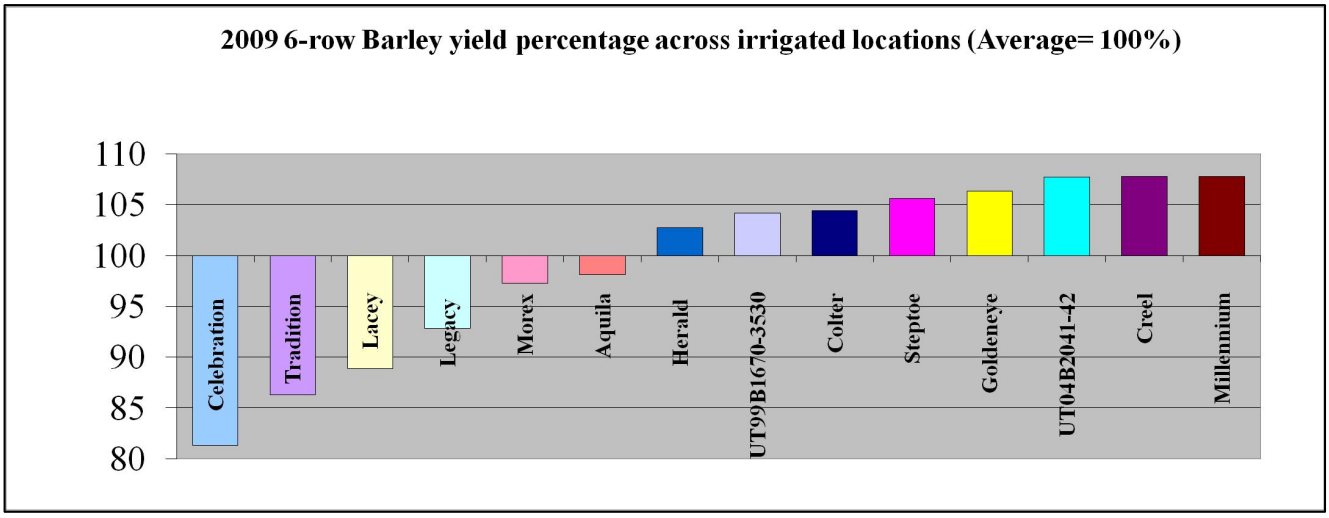


Chart 7. 6-Row Barley Yield Percentage Across Irrigated Locations.

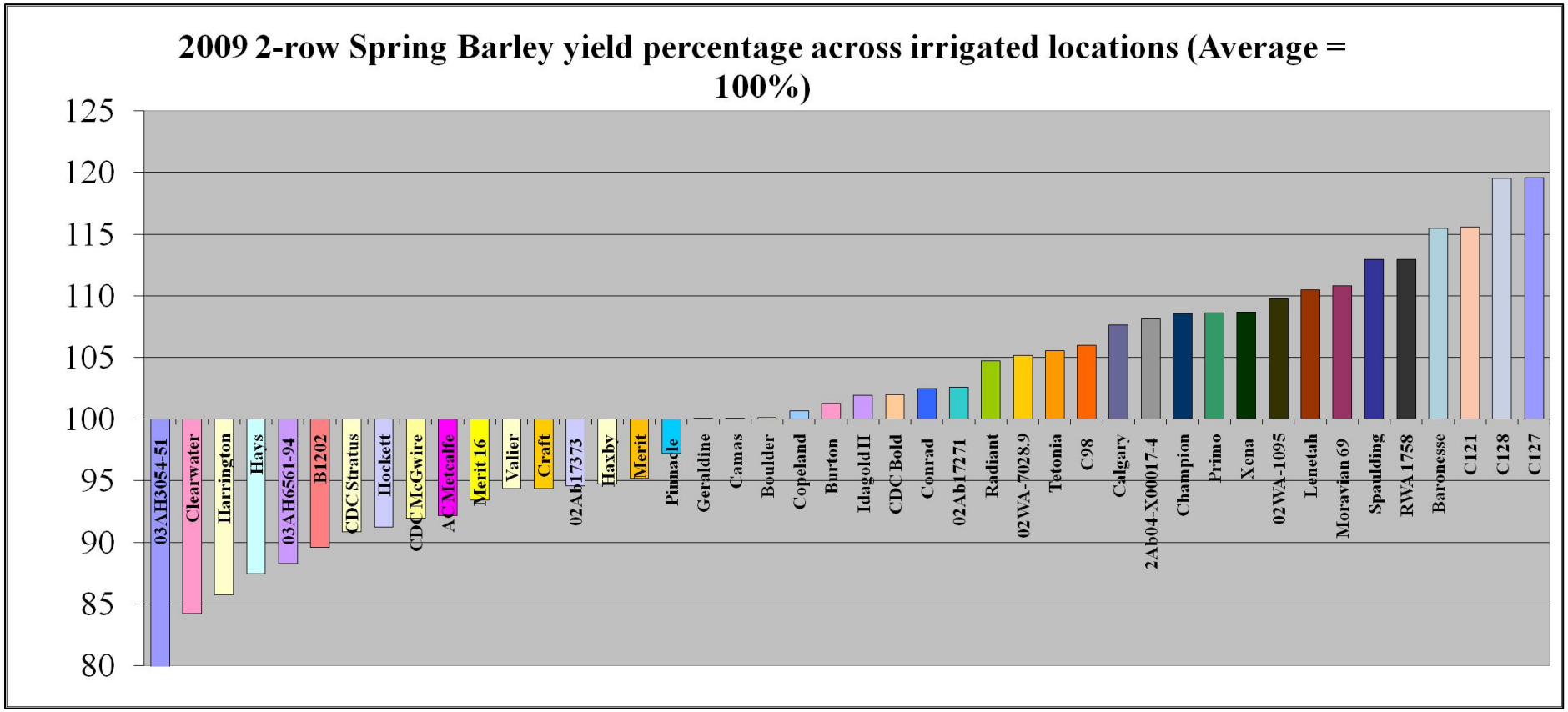


Chart 8. 2-Row Spring Barley Yield Percentage Across Irrigated Locations.

Table 59. Hard Winter Wheat Grain Protein & Kernel Hardness, 2008.

	----------Grain Protein %----------						----------Kernel Hardness 0-100----------					
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Preston**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Preston**	**Average**
AgriPro Paladin	13.7	13.7	15.5	---	---	**14.3**	56	63	61	---	---	**60.0**
Bauermeister	12.5	12.8	13.6	11.5	16.9	**13.5**	62	57	64	43	80	**61.2**
Bonneville	13.6	14.7	14.9	12.5	17.4	**14.6**	60	62	71	44	73	**62.0**
Boundary	12.9	13	14.7	11.1	16.7	**13.7**	64	60	68	37	60	**57.8**
Curlew	13.5	13.2	15.6	12.1	17.1	**14.3**	65	58	6	41	74	**48.8**
Deloris	12.9	12.7	14.6	12.4	16.3	**13.8**	62	61	72	39	62	**59.2**
Dumas	13.3	13.1	15.3	12.7	16.1	**14.1**	62	63	70	46	63	**60.8**
DW	13.5	13	14.7	11.3	17.3	**14.0**	67	65	69	44	67	**62.4**
Eddy	12.9	12.4	15.7	11.2	16.9	**13.8**	60	53	68	41	64	**57.2**
Garland	12.8	12.9	15.3	12.3	16.6	**14.0**	55	57	64	42	61	**55.8**
Gary (W)	12.3	12.6	14.1	10.8	16.5	**13.3**	63	60	72	41	63	**59.8**
Golden Spike (W)	12.8	13.5	14.4	11.9	16.1	**13.7**	64	57	61	37	63	**56.4**
IDO 621	11.9	12.8	14	---	---	**12.9**	58	56	65	---	---	**59.7**
IDO 653	13.1	13.6	15.4	---	---	**14.0**	72	66	78	---	---	**72.0**
IDO680	13.5	14.1	15.2	12.6	16.3	**14.3**	63	63	68	31	58	**56.6**
Manning	13.2	13.2	14.6	11.3	17.2	**13.9**	70	66	68	45	64	**62.6**
MDM (W)	12.9	13.3	14.4	12.2	17	**14.0**	66	53	68	46	68	**60.2**
Moreland	13.3	13.5	15	11.4	16.7	**14.0**	66	57	65	42	59	**57.8**
MT0495	13.1	12.6	15.9	11.9	17.1	**14.1**	60	50	63	38	62	**54.6**
MT0552	15	13.4	17.3	12.7	17	**15.1**	61	59	64	47	52	**56.6**
Neeley	12.9	13.4	15.2	11.6	16.8	**14.0**	64	59	69	45	61	**59.6**
NuDakota (W)	12.7	13.7	15	11.3	16.4	**13.8**	57	60	62	43	53	**55.0**
NuHills (W)	13.2	13.1	16.4	12.8	17	**14.5**	60	59	60	48	66	**58.6**
NuHorizon (W)	12.2	11.8	14.2	11.2	15.4	**13.0**	62	58	64	38	55	**55.4**
Palomino (W)	13.1	13.3	15.5	11.8	17.7	**14.3**	60	61	63	43	62	**57.8**
Promontory	12.3	12.7	15	11.2	16.5	**13.5**	61	66	65	44	67	**60.6**
TX97-F4-33-1B	11.9	12.2	15.2	10.9	16.9	**13.4**	62	60	62	39	64	**57.4**
UI Darwin (W)	13.3	13.7	15.3	12.7	16.5	**14.3**	57	63	66	43	63	**58.4**
UI Silver (W)	12.6	13	15.4	---	---	**13.7**	74	69	81	---	---	**74.7**
UICF Grace (W)	13.2	14.3	15.8	---	---	**14.4**	72	73	78	---	---	**74.3**
Utah 100	12.9	12.9	15	12.6	17.4	**14.2**	67	66	68	50	77	**65.6**
W98-344	13.6	13.4	15.7	---	---	**14.2**	64	60	68	---	---	**64.0**
WA8023	12.1	12.7	13.8	12	16.9	**13.5**	56	62	63	49	77	**61.4**
Weston	12.6	13.3	15.3	12.2	16.2	**13.9**	53	47	53	41	58	**50.4**
Yellowstone	12.8	13.3	15.8	11.8	16.5	**14.0**	61	61	65	48	64	**59.8**
Juniper	---	---	---	12	17	**14.5**	---	---	---	38	60	**49.0**
WA007975	---	---	---	12.2	16.9	**14.6**	---	---	---	44	70	**57.0**
IDO 573	---	---	---	11.9	16.7	**14.3**	---	---	---	47	72	**59.5**
IDO 681	---	---	---	11.4	16.8	**14.1**	---	---	---	44	67	**55.5**
IDO 682	---	---	---	11.7	17.4	**14.6**	---	---	---	41	74	**57.5**
IDO 616	---	---	---	11.9	17.1	**14.5**	---	---	---	39	72	**55.5**
Location Average	**13.0**	**13.2**	**15.1**	**11.9**	**16.8**	**14.0**	**62.5**	**60.3**	**64.9**	**42.5**	**65.0**	**59.2**

(W) = White

Table 60. Soft White Winter Wheat Grain Protein & Kernel Hardness, 2008.

	--------Grain Protein %--------					--------Kernel Hardness 0-100--------				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
00-475-2DH	10.4	11.9	14.1	11.2	**11.9**	23	13	28	23	**22**
92-22407A	10.9	11.7	13.7	11.5	**12.0**	20	10	26	20	**19**
Bruneau	9.8	11.6	12.7	10.6	**11.2**	19	9	22	13	**16**
Bruehl *	11	13	14	12	**12.5**	22	15	27	19	**21**
Brundage	10.6	12.6	12.7	10.3	**11.6**	28	12	26	22	**22**
Brundage 96	10.7	11.8	12.9	10	**11.4**	24	11	27	16	**20**
Cara	11.2	11.7	13.9	10.3	**11.8**	33	19	31	17	**25**
Chukar *	11.2	11.6	13.7	10.5	**11.8**	30	19	30	20	**25**
Clearfirst	11.5	11	13.9	11.2	**11.9**	32	14	28	21	**24**
Coda *	12.1	12.8	14	10.9	**12.5**	37	19	37	27	**30**
Daws	10.6	11.2	13.7	11.3	**11.7**	26	15	28	24	**23**
IDO 587	11.6	12.2	13.7	10.7	**12.1**	25	13	28	14	**20**
IDO 620	10.9	11.2	13.5	11.2	**11.7**	24	9	23	15	**18**
IDO 654	10.4	11.8	13.3	15.6	**12.8**	19	14	29	18	**20**
IDO 655	11.5	11.9	13.1	11.7	**12.1**	28	18	30	20	**24**
Lambert	11.1	11.1	13.1	11.3	**11.7**	27	17	32	24	**25**
Madsen	10.3	12.7	14.2	11.7	**12.2**	24	15	29	21	**22**
Masami	10.4	11.5	13.3	10.4	**11.4**	25	13	32	21	**23**
Mohler	10.7	10.8	13.8	10.5	**11.5**	27	17	29	15	**22**
ORCF-101	10.9	12.5	13.7	11.1	**12.1**	26	14	24	24	**22**
ORCF-102	10.4	13	13.4	11.5	**12.1**	28	15	27	24	**24**
Salute	11.4	12	13.9	10.8	**12.0**	30	17	33	19	**25**
Simon	10.4	12.3	13.7	10.5	**11.7**	31	18	33	16	**25**
Skiles	11.3	12.3	15.3	12.4	**12.8**	22	12	26	19	**20**
Stephens	10.4	12.5	13.1	11.1	**11.8**	26	18	27	25	**24**
Tubbs 06	9.6	11.9	13.6	10.8	**11.5**	25	21	32	26	**26**
UICF Brundage	10.7	13.1	12.6	10.2	**11.7**	16	7	21	15	**15**
UICF Lambert	11	13.5	13.5	10.6	**12.2**	29	23	33	26	**28**
WB 528	11.7	12.1	14.4	9.7	**12.0**	28	17	28	22	**24**
Xerpha	10.1	11.9	12.9	10.4	**11.3**	30	22	29	18	**25**
Location Average	**10.8**	**12.0**	**13.6**	**11.1**	**11.9**	**26.1**	**15.2**	**28.5**	**20.1**	**22.5**

* = Club Wheat

Table 61. Hard Spring Wheat Grain Protein & Kernel Hardness, 2008.

	----------Grain Protein %----------						----------Kernel Hardness 0-100----------					
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**
Hard Red Spring												
Buck Pronto	13.7	15.3	14.1	14.4	15.3	**14.6**	50	62	52	57	60	**56.2**
Bullseye	12.1	14.4	13.2	13.7	14	**13.5**	60	61	63	58	60	**60.4**
Cabernet	12.6	14.4	13.3	13.4	13.4	**13.4**	53	56	46	48	49	**50.4**
Choteau	13.7	15.1	14.3	14.9	14.1	**14.4**	58	68	61	56	56	**59.8**
IDO 667	13	14.3	13.7	13.4	14.1	**13.7**	59	57	57	51	54	**55.6**
Iona	12.5	14.6	14	12.8	13.9	**13.6**	54	60	52	50	50	**53.2**
Jefferson	13	14.9	13.3	13.6	14.6	**13.9**	61	64	53	51	55	**56.8**
Jerome	12.4	13.9	12.8	13.3	13.9	**13.3**	55	57	50	48	49	**51.8**
Kelse	13.6	14.4	14.5	13.6	13.9	**14.0**	55	59	54	49	57	**54.8**
OR4990114	12.1	14.4	12.9	13.6	14	**13.4**	52	56	49	47	46	**50.0**
RSI50603	13.3	14.5	13.7	14	14.3	**14.0**	59	67	58	51	57	**58.4**
Summit	12.7	12.7	12.8	13.5	13.3	**13.0**	52	52	50	50	52	**51.2**
Tara 2002	13.1	15.8	13.4	13.8	14.8	**14.2**	49	67	46	43	48	**50.6**
UI Winchester	12.7	14.2	13.3	13.7	13.8	**13.5**	55	55	50	48	50	**51.6**
WB936	12.8	15.1	13.9	13.4	14.8	**14.0**	50	63	53	50	60	**55.2**
Hard White Spring												
03W10348	12.5	14.2	13.2	12.7	---	**13.2**	51	52	43	42	---	**47.0**
Blanca Grande (W)	12.9	14.7	13.2	14.8	13.9	**13.9**	50	53	44	48	40	**47.0**
Blanca Royale (W)	12.6	13.2	13.1	12.2	---	**12.8**	56	54	48	46	---	**51.0**
Idaho 377s (W)	12.1	14.1	13.4	12.7	13.7	**13.2**	59	61	53	53	55	**56.2**
Klasic (W)	12.6	14.8	13	13.3	13.1	**13.4**	46	54	42	37	40	**43.8**
Lochsa (W)	12.7	14.7	13.8	13.8	14.4	**13.9**	63	68	58	54	60	**60.6**
Lolo (W)	12	13.6	12.8	12.9	13.6	**13.0**	59	62	59	56	57	**58.6**
Otis (W)	12.7	14.1	12.8	13.6	13	**13.2**	61	64	58	58	49	**58.0**
Pristine (W)	13.7	15	13.8	14	15.3	**14.4**	63	68	58	57	65	**62.2**
Snow Crest (W)	13.4	15	13.6	14.3	14.6	**14.2**	48	50	40	40	41	**43.8**
Spring Durum												
Alzada	13.4	15	14.1	14.3	13.5	**14.1**	---	---	---	---	---	---
AP1526	13.7	14.4	14	14	13.7	**14.0**	---	---	---	---	---	---
Kronos	13.4	14.3	13.1	13.6	13.4	**13.6**	---	---	---	---	---	---
Matt	13.1	13.1	13.5	13.7	12.9	**13.3**	---	---	---	---	---	--
Utopia	13.5	14.5	13.1	12.7	13.9	**13.5**	---	---	---	---	---	---
Location Average	**12.9**	**14.4**	**13.5**	**13.6**	**14.0**	**13.7**	**55.1**	**59.6**	**51.9**	**49.9**	**52.6**	**53.8**

(W) = White

Table 62. Soft White Spring Wheat Grain Protein & Kernel Hardness, 2008.

	--------Grain Protein %--------						--------Kernel Hardness 0-100--------					
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**
Alpowa	9.1	11.7	11.4	9.9	12.4	**10.9**	12	15	22	9	29	**17.4**
Alturas	9.2	10.9	10.8	8.7	11.4	**10.2**	7	12	18	3	21	**12.2**
Cataldo	10.2	12	11.4	9.7	11.8	**11.0**	8	12	18	5	16	**11.8**
Challis	8.9	11.5	11.4	9.8	11.5	**10.6**	12	18	17	12	34	**18.6**
IDO629	10.2	12.1	11.5	9.2	11.4	**10.9**	4	7	15	6	17	**9.8**
IDO630	10.6	11.6	12.4	9.9	12	**11.3**	0	3	13	2	16	**6.8**
IDO644	9.7	11.4	11.2	9.7	11.6	**10.7**	15	18	26	11	30	**20.0**
IDO668	9.7	11.6	11.2	9.8	11.9	**10.8**	1	9	16	-2	16	**8.0**
IDO669	9.4	11.5	10.8	9.1	12.2	**10.6**	11	16	23	6	27	**16.6**
IDO671	9.1	10.9	11	9.1	10.7	**10.2**	7	7	21	2	24	**12.2**
Jubilee	9.7	11.5	10.9	9.4	12.2	**10.7**	13	15	25	11	28	**18.4**
Nick	9.6	11.9	11.7	10.6	---	**11.0**	13	13	21	11	---	**14.5**
Penawawa	10.1	11.4	12.2	9.3	11.9	**11.0**	8	11	19	4	29	**14.2**
Skookum	8.7	12.3	11.6	10	12.6	**11.0**	3	9	20	4	25	**12.2**
Treasure	9.2	11.4	11.1	9.6	12	**10.7**	10	9	21	10	27	**15.4**
UI Pettit	9.6	11.1	10.8	10.1	12.2	**10.8**	12	17	25	7	29	**18.0**
Whit	9.9	11.5	11.1	9.2	12.1	**10.8**	13	15	23	4	26	**16.2**
Waxy Penawawa	9.9	11.6	12	9.3	12.1	**11.0**	1	1	11	3	15	**6.2**
Location Average	**9.6**	**11.6**	**11.4**	**9.6**	**11.9**	**10.8**	**8.3**	**11.5**	**19.7**	**6.0**	**24.1**	**13.8**

Table 63. Percent flour protein and flour yield for soft white winter wheat at Kimberly, Rupert, Ririe, and Aberdeen, 2008.

	Flour Protein (%)					Flour Yield (%)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
00-475-2DH	8.2	10.0	10.1	8.3	**9.2**	67.7	61.4	66.0	65.7	**65.2**
92-22407A	7.8	10.7	10.8	8.4	**9.4**	69.0	63.6	67.0	66.2	**66.5**
Bruneau	7.2	10.2	9.8	8.4	**8.9**	68.0	61.6	66.6	64.4	**65.2**
Bruehl *	7.9	11.1	10.6	8.8	**9.6**	68.1	61.2	66.4	66.2	**65.5**
Brundage	7.4	10.6	9.7	7.4	**8.8**	69.0	58.8	67.7	64.7	**65.1**
Brundage 96	7.5	10.0	9.9	7.3	**8.7**	68.4	61.8	66.2	64.1	**65.1**
Cara	7.2	10.1	10.6	7.8	**8.9**	70.7	67.9	68.2	66.6	**68.4**
Chukar *	8.4	9.7	10.5	7.6	**9.1**	68.8	66.1	66.9	64.0	**66.5**
Clearfirst	8.5	9.5	10.9	8.7	**9.4**	69.3	65.5	67.6	65.1	**66.9**
Coda *	8.6	11.0	10.8	7.8	**9.6**	71.2	64.8	68.9	67.3	**68.1**
Daws	7.8	9.2	10.5	8.0	**8.9**	68.1	61.3	65.9	64.4	**64.9**
IDO 587	8.2	10.0	10.5	8.0	**9.2**	68.6	64.2	65.0	65.9	**65.9**
IDO 620	8.5	9.4	10.6	8.5	**9.3**	69.4	61.4	66.2	63.0	**65.0**
IDO 654	7.8	9.8	10.3	8.0	**9.0**	69.1	62.6	67.1	66.3	**66.3**
IDO 655	8.4	9.6	9.9	8.4	**9.1**	68.9	64.9	65.3	65.4	**66.1**
Lambert	7.6	9.6	9.7	8.5	**8.9**	69.2	64.7	67.8	64.2	**66.5**
Madsen	7.7	11.3	11.3	9.2	**9.9**	71.0	65.3	67.8	65.4	**67.4**
Masami	7.8	9.7	10.5	7.8	**9.0**	71.1	62.5	68.1	67.1	**67.2**
Mohler	7.9	9.6	10.7	8.2	**9.1**	71.4	67.0	68.3	67.3	**68.5**
ORCF-101	8.4	10.7	10.6	8.5	**9.6**	68.9	61.3	66.3	66.6	**65.8**
ORCF-102	7.6	10.7	10.1	8.5	**9.2**	69.0	60.9	66.3	65.7	**65.5**
Salute	8.2	10.0	10.6	7.9	**9.2**	68.8	63.1	64.7	64.8	**65.4**
Simon	7.7	10.4	10.6	8.1	**9.2**	72.4	66.7	69.7	69.1	**69.5**
Skiles	8.3	10.1	11.1	8.9	**9.6**	67.7	61.3	60.2	62.9	**63.0**
Stephens	7.6	10.4	10.0	7.8	**9.0**	68.7	61.9	65.9	61.0	**64.4**
Tubbs 06	7.3	10.0	10.2	7.9	**8.9**	71.6	64.6	67.5	67.1	**67.7**
UICF Brundage	7.9	10.8	9.5	7.8	**9.0**	65.4	52.1	64.8	61.8	**61.0**
UICF Lambert	7.4	10.8	10.1	7.6	**9.0**	70.9	62.0	68.2	67.3	**67.1**
WB 528	8.8	10.3	11.2	7.4	**9.4**	69.1	64.4	65.4	65.5	**66.1**
Xerpha	7.5	10.1	9.8	7.7	**8.8**	68.5	62.8	67.3	64.1	**65.7**
Location average	**7.9**	**10.2**	**10.4**	**8.1**	**9.1**	**69.3**	**62.9**	**66.6**	**65.3**	**66.0**

* = Club Wheat

Table 64. Percent break flour yield and cookie diameter for soft white winter wheat at Kimberly, Rupert, Ririe, and Aberdeen 2008.

	Break Flour Yield (%)					Cookie Diameter (cm)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
00-475-2DH	36.9	38.8	35.1	42.2	**38.3**	8.5	8.3	8.4	8.5	**8.4**
92-22407A	37.9	38.8	33.5	42.4	**38.2**	8.8	8.6	7.8	9.0	**8.6**
Bruneau	37.9	37.9	34.6	43.5	**38.5**	8.8	8.4	8.0	8.9	**8.5**
Bruehl *	35.1	34.6	32.9	38.4	**35.3**	8.9	8.5	8.4	9.0	**8.7**
Brundage	38.9	39.3	34.8	45.5	**39.6**	8.8	8.4	8.5	8.8	**8.6**
Brundage 96	37.4	38.6	34.2	43.9	**38.5**	8.7	8.6	8.5	8.9	**8.7**
Cara	37.2	35.0	34.7	46.8	**38.4**	8.8	8.7	8.3	8.8	**8.7**
Chukar *	39.0	36.5	36.0	45.0	**39.1**	8.9	8.7	8.4	9.0	**8.8**
Clearfirst	37.5	34.9	29.4	40.4	**35.6**	8.5	8.5	8.2	8.8	**8.5**
Coda *	36.4	30.1	32.0	45.4	**36.0**	8.4	8.2	8.2	8.7	**8.4**
Daws	39.8	36.7	35.4	43.6	**38.9**	8.3	8.2	8.0	8.5	**8.3**
IDO 587	35.8	32.3	32.4	37.4	**34.5**	8.6	8.1	8.3	9.0	**8.5**
IDO 620	37.2	36.1	35.0	41.4	**37.4**	8.6	8.4	8.2	8.7	**8.5**
IDO 654	33.5	29.1	31.8	38.1	**33.1**	8.5	8.3	8.2	8.7	**8.4**
IDO 655	31.6	32.6	30.8	39.3	**33.6**	8.7	8.4	8.4	8.8	**8.6**
Lambert	35.8	34.9	33.4	43.1	**36.8**	8.5	8.2	8.2	8.7	**8.4**
Madsen	32.0	34.2	29.3	37.7	**33.3**	8.4	8.3	8.1	8.8	**8.4**
Masami	34.4	37.8	32.1	42.1	**36.6**	8.5	8.3	8.2	8.7	**8.4**
Mohler	33.9	32.8	30.6	38.7	**34.0**	8.3	8.2	8.1	8.4	**8.3**
ORCF-101	32.3	35.5	32.2	34.9	**33.7**	8.4	8.5	8.2	8.7	**8.5**
ORCF-102	36.4	34.7	29.8	38.3	**34.8**	8.7	8.2	8.4	8.6	**8.5**
Salute	34.6	35.7	31.0	44.1	**36.4**	8.5	8.4	8.3	8.7	**8.5**
Simon	30.6	36.1	30.8	41.6	**34.8**	8.3	8.2	8.3	8.6	**8.4**
Skiles	38.4	41.7	37.5	42.5	**40.0**	8.8	8.5	8.2	8.8	**8.6**
Stephens	35.4	37.1	32.9	38.5	**36.0**	8.3	8.3	8.2	8.7	**8.4**
Tubbs 06	32.7	33.4	29.7	39.3	**33.8**	8.2	8.1	8.1	8.4	**8.2**
UICF Brundage	39.1	43.2	37.9	44.9	**41.3**	9.1	8.5	9.0	9.1	**8.9**
UICF Lambert	35.5	35.4	33.1	42.0	**36.5**	8.8	8.5	8.2	9.0	**8.6**
WB 528	36.2	37.4	31.0	42.9	**36.9**	8.3	8.3	8.3	8.7	**8.4**
Xerpha	33.8	33.7	33.0	41.1	**35.4**	8.2	8.2	8.2	8.7	**8.3**
Location average	**35.8**	**35.8**	**32.9**	**41.5**	**36.5**	**8.6**	**8.4**	**8.3**	**8.8**	**8.5**

* = Club Wheat

Table 65. Percent flour protein and flour yield for soft white spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2008.

	Flour Protein (14% mb)						Flour Yield (%)					
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**
Alpowa	9.8	9.4	9.1	7.9	9.1	**9.1**	65.8	63.1	63.8	51.5	54	**59.6**
Alturas	7.3	9	8.7	7.2	8.6	**8.2**	69.3	43.3	68.7	57.3	59.2	**59.6**
Cataldo	8.3	9.9	8.9	7.8	8.8	**8.7**	66.9	65.7	66.7	59.8	59.4	**63.7**
Challis	7.3	9.3	8.8	7.5	8.6	**8.3**	68.4	67	64.3	57.9	60.9	**63.7**
IDO629	8.4	10.1	9.2	7.4	8.3	**8.7**	61.4	62.1	62.4	54.3	48	**57.6**
IDO630	8.8	10.6	10.1	7.7	8.7	**9.2**	63.9	57.6	58.3	53.6	50.5	**56.8**
IDO644	7.7	9.6	8.9	7.6	8.1	**8.4**	68.5	68.8	70.3	65.4	61.6	**66.9**
IDO668	8.2	10	9.1	8	9.1	**8.9**	68.5	70	69.3	61.5	61	**66.1**
IDO669	7.5	9.6	8.7	7.5	9	**8.5**	69.3	67.6	69.8	64.7	60.1	**66.3**
IDO671	7.5	9.3	8.7	7.4	8.1	**8.2**	70.8	68.6	70	64.7	61.9	**67.2**
Jubilee	7.3	9.3	8.3	7.3	9.3	**8.3**	69.1	67.3	68.3	66.3	59.5	**66.1**
Nick	7.4	9.9	9.3	8.1	----	**8.7**	68.7	66	67.8	64	----	**66.6**
Penawawa	7.9	9.4	9.7	7.8	8.7	**8.7**	64.2	62.1	62.7	56.8	57.9	**60.7**
Skookum	7.1	9.8	8.9	7.8	9.6	**8.6**	67.6	64.7	67.9	63.4	57.7	**64.3**
Treasure	7.2	9.2	8.6	6.9	8.6	**8.1**	67.8	63	67.7	63	56.9	**63.7**
UI Pettit	7.2	9.3	8.3	8.2	9.1	**8.4**	70.9	69.1	69.5	66.6	61.9	**67.6**
Waxy Penawawa	8.1	9.9	9.2	7.4	9.1	**8.7**	53.1	52.8	52.9	48.3	44.4	**50.3**
Whit	7.7	9.3	8.3	7.8	9.2	**8.5**	67.5	65.4	65.9	62.1	59.3	**64.0**
Location Average	**7.8**	**9.6**	**8.9**	**7.6**	**8.8**	**8.6**	**66.8**	**63.6**	**65.9**	**60.1**	**57.3**	**62.8**

Table 66. Percent break flour and cookie diameter for soft white spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2008.

	Break Flour (%)						Cookie Diameter (cm)					
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**
Alpowa	37.0	37.8	35.9	29.9	29.9	**34.1**	8.6	8.3	8.2	7.8	7.8	**8.1**
Alturas	36.1	58.1	34.6	36.7	30.3	**39.2**	8.6	8.4	8.5	8.2	8.3	**8.4**
Cataldo	34.3	34.8	33.0	34.5	37.6	**34.8**	8.4	8.2	8.4	8.2	8.4	**8.3**
Challis	38.6	34.0	33.7	35.2	28.6	**34.0**	8.5	8.4	8.4	8.0	8.1	**8.3**
IDO629	27.5	32.9	31.1	27.0	31.8	**30.1**	7.7	7.5	7.6	7.1	7.3	**7.4**
IDO630	27.0	27.2	30.6	24.9	25.4	**27.0**	7.3	7.1	7.3	6.9	7.2	**7.2**
IDO644	30.8	32.3	37.8	36.7	30.9	**33.7**	8.0	8.1	8.0	8.0	8.0	**8.0**
IDO668	34.0	34.4	36.8	29.8	32.2	**33.4**	8.5	8.3	8.3	8.0	8.2	**8.3**
IDO669	41.3	39.7	42.8	38.1	39.5	**40.3**	8.9	8.9	8.6	8.4	8.4	**8.6**
IDO671	32.7	34.5	33.7	34.1	33.4	**33.7**	8.7	8.4	8.5	8.1	8.3	**8.4**
Jubilee	41.2	37.7	37.5	40.2	33.3	**38.0**	8.9	8.7	8.4	8.0	8.5	**8.5**
Nick	31.8	34.1	31.2	32.2	----	**32.3**	8.5	8.4	8.4	7.9	----	**8.3**
Penawawa	34.6	36.5	36.4	34.4	30.8	**34.5**	8.5	8.5	8.4	8.3	8.4	**8.4**
Skookum	38.2	38.5	37.0	39.4	35.1	**37.6**	8.8	8.5	8.5	7.9	8.3	**8.4**
Treasure	44.3	42.0	40.3	35.1	30.1	**38.4**	8.9	8.5	8.4	8.2	8.2	**8.4**
UI Pettit	38.4	35.5	33.8	36.9	33.2	**35.6**	8.8	8.6	8.6	8.1	8.8	**8.6**
Waxy Penawawa	34.0	37.1	35.6	32.3	38.7	**35.5**	7.8	7.6	7.6	7.5	7.4	**7.6**
Whit	40.2	39.2	36.5	39.9	31.1	**37.4**	8.7	8.3	8.6	8.1	8.4	**8.4**
Location Average	**35.7**	**37.0**	**35.5**	**34.3**	**32.5**	**35.0**	**8.5**	**8.3**	**8.3**	**7.9**	**8.1**	**8.2**

Table 67. Percent flour protein and flour yield for hard winter wheat at Aberdeen, Kimberly, Rupert, Ririe and Preston 2008.

	Flour Protein (14% mb)						Flour Yield (%)					
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Preston**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Preston**	**Average**
Hard Red Winter Wheat												
AgriPro Paladin	11.1	11.6	12.9	---	---	**11.9**	68	66.1	68.2	---	---	**67.4**
Bauermeister	10	11.2	11.4	10.2	15.2	**11.6**	71.6	66.3	70.9	67.6	60.7	**67.4**
Bonneville	11	12.8	12.4	11	15.5	**12.5**	71.4	68.7	71.5	68	59.8	**67.9**
Boundary	10.3	11.2	12.1	9.4	14.5	**11.5**	71.3	67.7	70.4	67.3	55.5	**66.4**
Curlew	11.1	11.6	13.5	10.5	15.3	**12.4**	70.3	67.4	68.8	67.2	57	**66.1**
Deloris	10.7	11.1	12.8	11.1	15.1	**12.2**	73.7	69.7	72.9	70.3	62.7	**69.9**
Dumas	10.8	11.5	12.9	10.8	13.8	**12.0**	68.7	68.6	69.5	66.4	54.4	**65.5**
DW	10.7	11.4	12.6	9.6	16	**12.1**	69.8	67	69.4	66.3	58.8	**66.3**
Eddy	10.5	11.2	13.4	9.6	14.9	**11.9**	71.5	69.1	69.7	68.9	56.2	**67.1**
Garland	9.7	10.6	12.5	10.4	14.8	**11.6**	67.5	64.2	66.6	62.8	56.6	**63.5**
IDO 573	---	---	---	10.5	14.9	**12.7**	---	---	---	67	58.5	**62.8**
IDO 616	---	---	---	10.3	15.5	**12.9**	---	---	---	68.3	61.2	**64.8**
IDO 621	9.4	10.8	11.7	---	---	**10.6**	72.2	68.2	71.3	---	---	**70.6**
IDO 653	10.9	11.8	13.2	---	---	**12.0**	70.5	66.7	69.7	---	---	**69.0**
IDO680	11.1	12.2	13.4	11.3	14.8	**12.6**	69.5	66.6	68.7	66.3	56.5	**65.5**
Juniper	---	---	---	10.1	14.5	**12.3**	---	---	---	62.4	51.7	**57.1**
Manning	10.7	11.2	12.1	9.8	15.8	**11.9**	69.7	66.9	69.5	66.2	59.9	**66.4**
Moreland	10.7	11.7	12.7	9.7	15.1	**12.0**	69.1	67.7	68.2	64.5	54.3	**64.8**
MT0495	10.6	11.1	13.7	10.2	15.3	**12.2**	68.9	67.6	68.5	66.7	55.7	**65.5**
MT0552	12.4	12	15.1	10.8	15.1	**13.1**	68.9	67.9	67.7	67.3	56.7	**65.7**
Neeley	10.4	11.2	13	10.1	15.2	**12.0**	70.1	64.8	69.9	66.4	56.8	**65.6**
Promontory	9.7	11.1	12.6	9.7	15.2	**11.7**	71	69.4	70.2	67.9	59.7	**67.6**
TX97-F4-33-1B	9.3	10.8	12.8	9.3	15.8	**11.6**	69.6	68.7	69.8	66.7	59.3	**66.8**
Utah 100	10.3	10.9	12.5	10.7	15.7	**12.0**	69.2	67.5	69.3	65.7	58.7	**66.1**
WA007975	---	---	---	10.6	15.3	**13.0**	---	---	---	67.7	63.3	**65.5**
WA8023	9.4	10.9	11.2	10.2	14.9	**11.3**	70.9	67	71	67.3	59.3	**67.1**
Weston	10.5	12.3	13.3	10.9	14.8	**12.4**	70.2	66.1	68.8	66.5	56.2	**65.6**
Whetstone	11.1	11.8	13.3	---	---	**12.1**	58.1	68	69.3	---	---	**65.1**
Yellowstone	10.2	11.7	13.7	10.2	14.9	**12.1**	70.2	67.5	68.5	66.5	57.3	**66.0**
Location Average	**10.5**	**11.4**	**12.8**	**10.3**	**15.1**	**12.1**	**69.7**	**67.4**	**69.5**	**66.7**	**57.9**	**66.0**
Hard White Winter Wheat												
Gary (W)	9.4	10.8	11.5	9	14.5	**11.0**	69.5	66	68.6	65.8	61	**66.2**
Golden Spike (W)	10.3	11.4	12.1	10.3	14.5	**11.7**	73.1	66.4	72.7	66.4	61.9	**68.1**
IDO 681 (W)	---	---	---	9.8	15.1	**12.5**	---	---	---	69.5	61	**65.3**
IDO 682 (W)	---	---	---	10.7	15.9	**13.3**	---	---	---	66.2	57.6	**61.9**
MDM (W)	10.3	11.9	12.1	10.8	15	**12.0**	70.1	63.1	67.9	65.1	51.1	**63.5**
NuDakota (W)	10.1	11.7	12.8	9.7	14.8	**11.8**	69	65.8	67	64.8	49.8	**63.3**
NuHills (W)	10.6	11.5	14.1	10.9	14.8	**12.4**	65.4	65	63.5	64.2	51.9	**62.0**
NuHorizon (W)	9.7	10.5	12.5	9.5	14.5	**11.3**	69.1	67.7	68.3	64.8	55.3	**65.0**
Palomino (W)	10.3	11.4	13	9.9	15.3	**12.0**	66.2	63.5	65.6	65.2	47.6	**61.6**
UI Darwin (W)	10.6	12	12.6	11	15.3	**12.3**	69.2	66.2	69.7	66.1	60.5	**66.3**
UI Silver (W)	9.9	11	13.3	---	---	**11.4**	71.5	69.7	70.5	---	---	**70.6**
UICF Grace (W)	10.6	12.2	13.4	---	---	**12.1**	67.3	61.6	65.6	---	---	**64.8**
Location Average	**10.2**	**11.4**	**12.7**	**10.2**	**15.0**	**12.0**	**69.0**	**65.5**	**67.9**	**65.8**	**55.8**	**64.9**

(W) = White

Table 68. Bake volume for hard winter wheat at Aberdeen, Kimberly, Rupert, Ririe and Preston 2008.

	Bake Volume (cc)					
Variety	**Aberdeen**	**Kimberly**	**Rupert**	**Ririe**	**Preston**	**Average**
Hard Red Winter Wheat						
AgriPro Paladin	1200	1100	1100	---	---	**1133**
Bauermeister	1025	900	1050	950	1100	**1005**
Bonneville	1100	1025	1100	1075	1150	**1090**
Boundary	1025	950	975	900	925	**955**
Deloris	1125	1075	1075	1200	1300	**1155**
Dumas	1025	950	1125	1000	700	**960**
DW	1225	1100	1100	1000	1225	**1130**
Eddy	1225	1000	1050	950	1075	**1060**
Garland	1025	875	850	875	1100	**945**
IDO 573	---	---	---	1025	1225	**1125**
IDO 616	---	---	---	1000	1300	**1150**
IDO 621	975	900	925	---	---	**933**
IDO 653	1150	1000	1000	---	---	**1050**
IDO 680	1225	1100	1100	1050	1200	**1135**
Juniper	---	---	---	900	925	**913**
Manning	1025	1025	1050	975	1300	**1075**
Moreland	1225	1025	1075	1025	1200	**1110**
MT0495	1225	1025	1050	1050	1050	**1080**
MT0552	1150	975	1100	1075	1000	**1060**
Neeley	1400	1000	1000	1000	1225	**1125**
Promontory	1150	950	900	950	1300	**1050**
TX97-F4-33-1B	1075	850	1000	925	1300	**1030**
Curlew	1150	1125	1000	1025	1150	**1090**
Utah 100	1150	1050	1075	1075	1300	**1130**
Whetstone	1200	1050	1100	---	---	**1117**
WA007975	---	---	---	1050	1300	**1175**
WA8023	700	650	750	850	1025	**795**
Weston	1075	1000	1050	975	1200	**1060**
Yellowstone	1200	1025	1050	1025	1200	**1100**
Location Average	**1122**	**989**	**1026**	**997**	**1151**	**1060**
Hard White Winter Wheat						
Gary (W)	1075	950	1025	875	1300	**1045**
Golden Spike (W)	1150	950	1050	1100	1300	**1110**
UICF Grace (W)	1150	1025	1100	---	---	**1092**
UI Silver (W)	1225	1050	1075	---	---	**1117**
IDO 681 (W)	---	---	---	1025	1300	**1163**
IDO 682 (W)	---	---	---	1075	1300	**1188**
MDM (W)	1000	1100	1050	1050	925	**1025**
NuDakota (W)	1050	925	1000	900	1025	**980**
NuHills (W)	1150	1000	1025	1000	1125	**1060**
NuHorizon (W)	1175	775	900	925	1300	**1015**
Palomino (W)	1175	975	1100	1025	1175	**1090**
UI Darwin (W)	1200	1050	1075	1025	1300	**1130**
Location Average	**1135**	**980**	**1040**	**1000**	**1205**	**1084**

Table 69. Percent flour protein and flour yield for hard spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2008.

	Flour Protein (14% mb)						Flour Yield (%)					
Variety	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**	**Rupert**	**Aberdeen**	**Idaho Falls**	**Ashton**	**Soda Springs**	**Average**
Hard Red Spring												
Buck Pronto	12.1	13.7	12.4	13.2	13.6	**13.0**	67.3	66.9	69.3	62.4	52.2	**63.6**
Bullseye	10.6	12.8	12	11.7	12.4	**11.9**	69.9	70	69.3	61.8	56.8	**65.6**
Cabernet	11.1	13.2	12.1	12.1	12	**12.1**	68.2	69.9	69.3	66.5	57.7	**66.3**
Choteau	12.1	13.9	13.1	13.6	12.4	**13.0**	66	68.5	68.2	57.7	51.4	**62.4**
IDO 667	11.5	13.1	12.2	12.3	12.6	**12.3**	68.4	68.9	68.2	61.2	53	**63.9**
Iona	11	13.3	12.7	11.2	12.2	**12.1**	70.9	71.7	70.7	63.8	51.1	**65.6**
Jefferson	11.2	13.6	12.1	11.8	13.1	**12.4**	70.4	70	70.3	63.4	59.2	**66.7**
Jerome	10.7	12.6	11.4	11.6	12.5	**11.8**	69.6	70.5	70.3	63.6	58.4	**66.5**
Kelse	12	12.9	13	12.4	12.2	**12.5**	64.4	67.4	67.1	62.4	51.3	**62.5**
OR4990114	10.5	12.9	11.6	12.2	12.7	**12.0**	70.7	69.7	70.1	66.7	59.3	**67.3**
RSI50603	10.5	12.5	12.4	12.4	12.8	**12.1**	66.7	68.8	68.3	59.2	50.5	**62.7**
Summit	11	11.3	11.4	11.9	11.9	**11.5**	66.3	67.1	67.1	57.2	49.6	**61.5**
Tara 2002	11.5	14.4	11.9	12.4	13.4	**12.7**	69.2	67.2	68.6	63.1	53.7	**64.4**
UI Winchester	11	12.9	11.9	12.3	12.5	**12.1**	69.4	69.6	69.2	63.4	54.3	**65.2**
WestBred 936	11.4	13.5	12.8	11.8	13.2	**12.5**	67.8	70.7	70	62.6	49.7	**64.2**
Location Average	**11.2**	**13.1**	**12.2**	**12.2**	**12.6**	**12.3**	**68.3**	**69.1**	**69.1**	**62.3**	**53.9**	**64.6**
Hard White Spring												
02W50076W (W)	11.2	11.6	11.7	10.5	---	**11.3**	64.9	66.6	63.2	59.5	---	**63.6**
03W10348 (W)	11.1	13	12	11.2	---	**11.8**	68.7	69.7	69	62.6	---	**67.5**
Blanca Grande (W)	11.4	13.3	11.9	13.2	12.6	**12.5**	67.6	66.7	67.2	57.6	54.8	**62.8**
Idaho 377s (W)	10.3	12.5	11.7	10.9	11.9	**11.5**	65.1	64.8	63.7	57.1	49.2	**60.0**
Klasic (W)	11.1	13.2	11.7	11.8	12	**12.0**	70.6	69.3	69.2	62.2	60.2	**66.3**
Lochsa (W)	11.5	13.1	12.3	11.5	12.2	**12.1**	70.2	70.7	70.7	64	50.3	**65.2**
Lolo (W)	10.1	11.8	10.9	10.8	11.7	**11.1**	66.9	66.8	65.1	56.4	52.4	**61.5**
Otis (W)	11.2	12.4	11.5	11.7	11.4	**11.6**	68	69.5	69.9	59.1	50.5	**63.4**
Pristine (W)	11.7	13	12.1	11.9	13.2	**12.4**	67.5	69.3	68.4	64.5	58.5	**65.6**
Snow Crest (W)	12.1	13.9	12.5	12.9	13.3	**12.9**	65.5	67.1	65.5	60	55.4	**62.7**
Location Average	**11.2**	**12.8**	**11.8**	**11.6**	**12.3**	**11.9**	**67.5**	**68.1**	**67.2**	**60.3**	**53.9**	**63.9**

Table 70. Bake volume for hard spring wheat, 2008.

	Bake Volume (cc)					
Variety	**Aberdeen**	**Ashton**	**Idaho Falls**	**Rupert**	**Soda Springs**	**Average**
Hard Red Spring Wheat						
Buck Pronto	1050	1100	1100	1100	1125	**1095**
Bullseye	1200	1000	1150	1125	1100	**1115**
Cabernet	1225	1250	1200	1150	1200	**1205**
Choteau	1200	1175	1175	1075	1025	**1130**
IDO 667	1150	1050	1200	1150	1100	**1130**
Iona	1200	1075	1300	1150	1100	**1165**
Jefferson	1200	1100	1300	1125	1400	**1225**
Jerome	1050	1150	1200	1125	1200	**1145**
Kelse	1150	1175	1300	1175	1150	**1190**
OR4990114	1175	1175	1225	1075	1400	**1210**
RSI50603	1150	1225	1150	1050	1150	**1145**
Summit	1100	1100	1125	1050	1050	**1085**
Tara 2002	1200	1225	1300	1175	1225	**1225**
UI Winchester	1175	1150	1175	1125	1225	**1170**
WestBred 936	1200	1100	1175	1125	1200	**1160**
Location Average	**1162**	**1137**	**1205**	**1118**	**1177**	**1160**
Hard White Spring Wheat						
02W50076W (W)	1100	1025	1125	1025	---	**1069**
03W10348 (W)	1200	1100	1225	1075	---	**1150**
Blanca Grande (W)	1225	1400	1300	1075	1250	**1250**
Idaho 377s (W)	1050	925	1100	900	1075	**1010**
Klasic (W)	1225	1225	1175	1050	1225	**1180**
Lochsa (W)	1225	1050	1150	1125	1200	**1150**
Lolo (W)	1000	875	975	975	1050	**975**
Otis (W)	1100	1050	1100	1075	1050	**1075**
Pristine (W)	1100	1075	1075	1150	1150	**1110**
Snow Crest (W)	1200	1400	1225	1225	1300	**1270**
Location Average	**1143**	**1113**	**1145**	**1068**	**1163**	**1124**

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Idaho Preferred Varieties

Meeting Market Demand
Use of the following varieties may increase the overall functionally and consistency of Idaho wheat.

This listing is not all-inclusive*. It is provided as a guide for producers to consider when making planting decisions. Growers are encouraged to contact extension agents and other industry representatives for local agronomic characteristics.

**Due to the large number of varieties available, the following list includes (a) varieties that are being grown in Idaho as identified by the latest USDA, NASS survey and/or (b) varieties recently available that meet end user needs.*

Quality Plus (Q+) Varieties in this group usually have above average milling and baking quality.

Acceptable Quality (AQ) Most milling and baking attributes of these varieties are acceptable, but they are not above average for all properties.

Limited Markets (LM) It is suggested that these varieties be grown only if a buyer is confirmed before the seed is planted. Putting these varieties into the general distribution channel may affect the overall quality and/or consistency of Idaho's wheat.

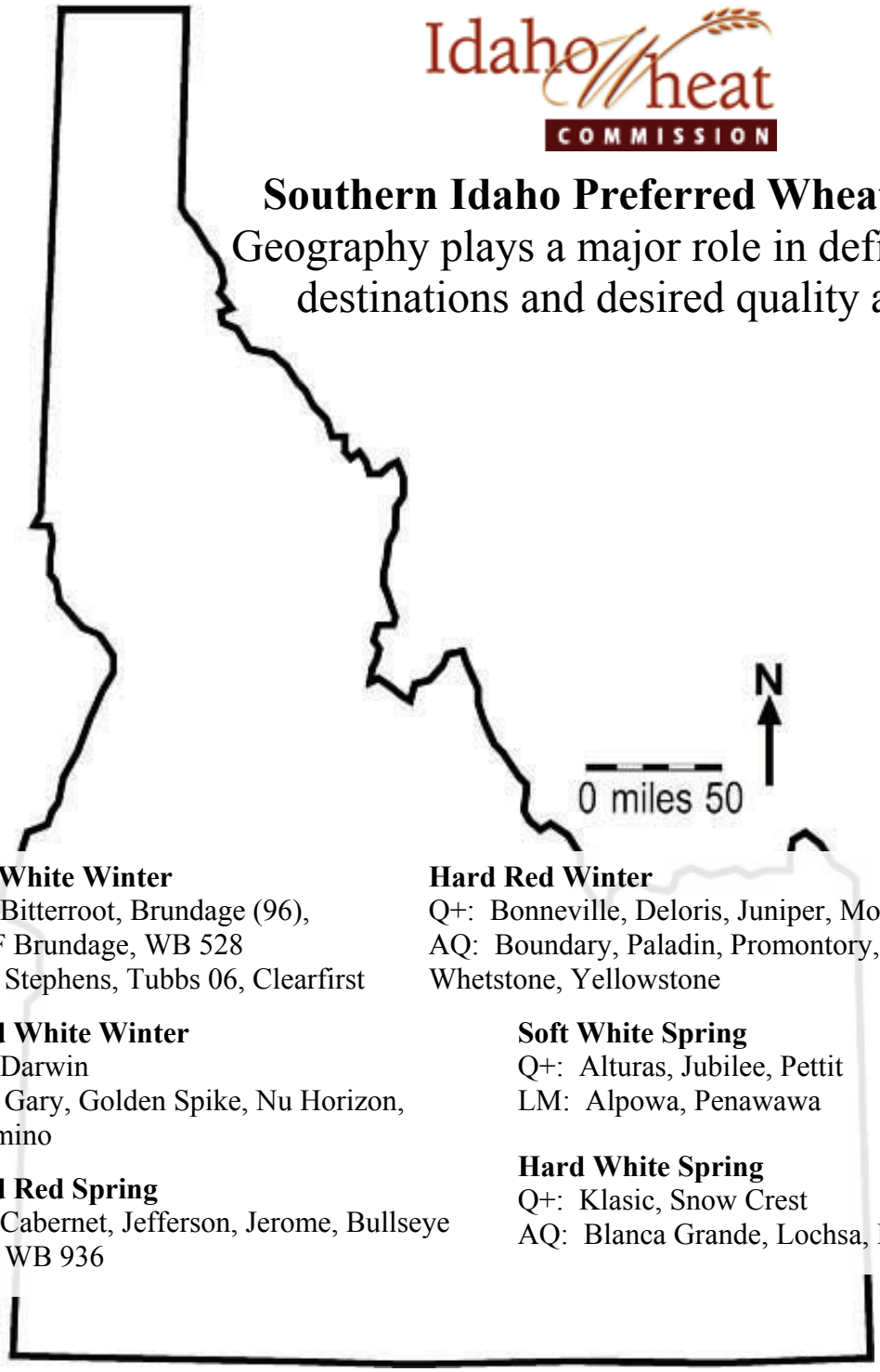
NOTE: Idaho wheat markets are 50% domestic and 50% overseas. Different end products may favor quality attributes of one variety over another.

Quality ratings are determined from comparative testing and end user input.

Ratings are updated as information becomes available. Contact IWC for varieties not listed.

Southern Idaho Preferred Wheat Varieties

Geography plays a major role in defining market destinations and desired quality attributes



Soft White Winter
Q+: Bitterroot, Brundage (96), UICF Brundage, WB 528
AQ: Stephens, Tubbs 06, Clearfirst

Hard White Winter
Q+: Darwin
AQ: Gary, Golden Spike, Nu Horizon, Palomino

Hard Red Spring
Q+: Cabernet, Jefferson, Jerome, Bullseye
AQ: WB 936

Hard Red Winter
Q+: Bonneville, Deloris, Juniper, Moreland
AQ: Boundary, Paladin, Promontory, Utah 100, Whetstone, Yellowstone

Soft White Spring
Q+: Alturas, Jubilee, Pettit
LM: Alpowa, Penawawa

Hard White Spring
Q+: Klasic, Snow Crest
AQ: Blanca Grande, Lochsa, Pristine

IWC For more information: www.idahowheat.org